corrections as information becomes available. Corrections shall be initialed and dated at the time when they are made.

vi. Discrepancies that change the required management of waste shall be resolved and managed according to this Attachment.

vii. If a shipment involves containers that are not in good condition (e.g., rusting that represents a structural problem or that compromises containment of the waste, apparent structural defects, etc.) or if containers are leaking, the Permittee shall immediately transfer the waste from such containers to containers that are in good condition or otherwise manage the affected waste in accordance with the requirements of Attachment II-6, *Contingency Plan,* and if necessary, arrange for the return of the shipment to the generator. After two such occurrences from a generator, the Permittee shall withdraw the Notice to Transport for all PCB waste streams from that particular generator. The Permittee shall not reinstate the Notice to Transport(s) or issue a new Notice to Transport(s) until a corrective action plan has been approved by the Permittee and notification has been provided to the Director with a copy of the corrective action plan and its approval.

viii. Appearance discrepancies other than an appearance discrepancy with the profiled PCB waste group may be resolved by adding information to the Waste Profile Record following consultation with the generator. Such additional information shall be acknowledged by the generator's signature, identifying the information as true and correct.

ix. If the Permittee accepts a waste with a significant discrepancy in quantity (as defined in 7.d., 7.e., or 7.f. of this Attachment) or a significant discrepancy in type (as defined in 7.g.ii. of this Attachment) and the discrepancy is not resolved with the generator within 15 days after receiving the waste, the Permittee shall submit to the Director and to the EPA Region 8 Administrator a copy of the manifest or shipping paper at issue and a letter describing the discrepancy and attempts to reconcile it. This action shall be performed within three days after the 15-day time limit has expired.

x. When the Permittee adds corrections or information to the manifest, initials and a date shall be included with the notation. Such additional information shall be acknowledged by the generator's signature, identifying that information as true and correct.

k. PCB/Radioactive Waste Acceptance

i. Incoming shipments shall be sampled and analyzed in accordance with the Waste Characterization Plan currently approved in the Permittee's Radioactive Material License.

ii. The Permittee shall visually inspect each shipment for free liquids and perform the Paint Filter Liquids Test as required. For containerized waste shipments, this inspection shall be conducted for each container in the shipment.

iii. If unexpected free liquids are discovered, one of the following actions shall be taken:

1. the entire shipment may be rejected for receipt and disposal and shall be returned to the generator or another permitted facility that can accept the PCB liquid waste; or

2. the specific containers with free liquids within the shipment may be rejected for receipt and disposal and shall be returned to the generator or another permitted facility that can accept the PCB liquid waste; or

3. The liquid may be sampled and analyzed for TOC or for PCBs and managed as an incidental liquid in accordance with 10.j. of this Attachment if the TOC is less than 10% or the total PCB concentration is less than 500 ppm; or

4. the container of liquid PCB waste may be re-profiled for management as a waste that is allowed to have PCBs in liquid form, such as thermal desorption; or

5. the liquid may be separated from the solid portion of the waste and re-profiled separately for management as a waste that is allowed to have PCBs in liquid form, such as thermal desorption.

A. Waste that is re-profiled shall require the analyses described in Section II.3 of Attachment II-1, *Waste Analysis Plan*, prior to further management.

iv. If a shipment arrives in a leaking condition, the Permittee shall manage the leaking shipment in accordance with Attachment II-6, *Contingency Plan.*

v. When a determination has been made to reject a shipment or containers within a shipment, the Permittee shall withdraw the Notice to Transport for all PCB waste streams from that particular generator. The Permittee shall not reinstate the Notice to Transport(s) or issue new Notice to

Transport(s) until a corrective action plan has been approved by the Permittee and notification has been provided to the Director with a copy of the corrective action plan and its approval.

vi. Shipments of PCB waste that remain in transportation equipment or vehicles (rail cars, flatbeds, vans, trucks, etc.) and that are awaiting analyses or results may remain at the Permittee's facility for up to 10 days. Additional time may be granted if requested, in writing, prior to the conclusion of the 10-day period and approved by the Director.

l. PCB/Radioactive Waste Discrepancy Resolution

i. Where discrepancies are identified, the discrepancies shall be noted in the operating record and resolved with the generator.

ii. Discrepancies shall be addressed and resolved prior to disposal.

iii. Shipments with discrepancies may be placed in storage pending resolution.

iv. After discrepancies have been addressed or resolved, the shipment shall be managed in accordance with this Attachment.

v. Discrepancies, such as simple, non-factual typographical errors that are overlooked or discovered at a later date, shall be resolved by making corrections as information becomes available. Corrections shall be initialed and dated at the time when they are made.

vi. Discrepancies that change the required management of waste shall be resolved and managed as required by the Waste Characterization Plan of the Radioactive Material License.

vii. If a shipment involves containers that are not in good condition (e.g., rusting that represents a structural problem or that compromises containment of the waste, apparent structural defects, etc.) or if containers are leaking, the Permittee shall immediately transfer the waste from such containers to containers that are in good condition or otherwise manage the affected waste in accordance with the requirements of Attachment II-6, *Contingency Plan,* and if necessary, arrange for the return of the shipment to the generator. After two such occurrences from a generator, the Permittee shall withdraw the Notice to Transport for that waste stream. The Permittee shall not reinstate the Notice to Transport or issue a new Notice to Transport until a corrective action plan has been approved by the Permittee and notification has been provided to the Director with a copy of the corrective action plan and its approval.

viii. Appearance discrepancies, other than an appearance discrepancy with the PCB classification profile, may be resolved by adding information to the Waste Profile Record following consultation with the generator. Such additional information shall be acknowledged by the generator's signature, identifying the information as true and correct.

ix. If the Permittee accepts a waste with a significant discrepancy in quantity (as defined in 7.d., 7.e., or 7.f. of this Attachment) or a significant discrepancy in type (as defined in 7.g.ii. of this Attachment) and the discrepancy is not resolved with the generator within 15 days after receiving the waste, the Permittee shall submit to the Director and to the EPA Region 8 Administrator a copy of the manifest or shipping paper at issue and a letter describing the discrepancy and attempts to reconcile it. This action shall be performed within three days after the 15 day time limit has expired.

x. When the Permittee adds corrections or information to the manifest, initials and a date shall be included with the notation. Such additional information shall be acknowledged by the generator's signature, identifying the information as true and correct.

m. Requirements for PCB Radioactive Waste and PCB Mixed Waste with debris:

i. When PCB waste shipments contain material from the list of debris identified in 7.m.vi. below, and when these materials cannot be sampled reasonably and representatively, the Site Manager or authorized designee may waive the sampling and analysis of the non-sampleable portion of the PCB waste shipment.

ii. For PCB bulk product and PCB remediation wastes as defined in Section 4 of this Attachment, the generator may waive the PCB sampling and analytical requirements if the PCB concentration is assumed to be $\geq$ 50 ppm.

iii. PCB sampling and analysis may be waived for intact, non-leaking PCB Small Capacitors, drained PCB-Contaminated Articles and Electrical Equipment, drained PCB Transformers, and other drained PCB Articles.

iv. PCB sampling/analysis waivers shall be documented, with an explanation and justification, and maintained in the Operating Record.

v. A copy of the sampling/analysis waiver shall be sent to the Director in accordance with Condition II.M.2. of this Permit.

vi. Debris:

1. Commercial shaped solid-phase metals
2. Wood (excluding sawdust or shavings)
3. Concrete
4. Brick
5. Stone
6. Glass
7. Plastic
8. Rubber
9. Boots
10. Suits
11. Gloves
12. Sheet metal
13. Construction debris
14. Building debris
15. Empty containers
16. Wire

8 FREQUENCY OF ANALYSES AND SAMPLE COLLECTION REQUIREMENTS

a. One rail car (any type) may represent a nominal 100 cubic yards; multiple intermodal containers upon a railcar may represent a nominal 20 cubic yards per intermodal container; and one highway shipment (any type) may represent a nominal 20 cubic yards. The Permittee may alternatively use the actual volumes for counting purposes. The Permittee shall indicate the use of actual or nominal volumes in the operating record and in any reports or documents required by this Permit, or requested by the Director.

b. PCB/Mixed Waste

i. On-site sampling and analysis of PCB waste in rail cars shall occur within ten days of arrival to the Permittee's-operated spur.

ii. For rail shipments, if following receipt of analytical results the waste in holding is not acceptable, the Permittee shall document the waiver in the Operating Record, within five days or return the waste to the generator, or transport the waste to another approved facility within 15 days of receipt of analytical results.

iii. For each waste stream, sampling frequency shall be performed in accordance with Attachment II-1, *Waste Analysis Plan.*

c. PCB/Radioactive Waste

i. For sampling of PCBs in PCB waste types when required to verify PCB/Radioactive waste characterization, the Permittee shall follow the current Waste Characterization Plan approved under its Radioactive Material License.

9 PCB WASTE STORAGE

a. Upon acceptance of a shipment, the Permittee shall manage PCB waste as either bulk PCB waste, containerized PCB waste, PCB Transformers, PCB Articles, drained PCB Containers, intact, non-leaking PCB Small Capacitors, or PCB waste requiring thermal desorption processing.

b. PCB/Radioactive Waste received in railcars at the Mixed Waste Facility shall be managed in accordance with Attachment III-1, *Container Management Plan*, of this Permit.

i. PCB/Radioactive Waste that requires Mixed Waste disposal (see Condition 4.j. of this Attachment) received in railcars may be off-loaded using the Rotary Dump Facility in accordance with Section 17 of this Attachment.

c. Containerized PCB/Radioactive Waste for disposal in the Mixed Waste Landfill Cell shall only be stored within permitted Mixed Waste Storage Areas.

d. Containerized PCB/Mixed Waste shall only be stored within permitted Mixed Waste Storage Areas.

e. PCB Transformers, other PCB Articles, and intact, non-leaking PCB Small Capacitors shall only be stored within permitted Mixed Waste Storage Areas.

f. PCB wastes for thermal desorption which may contain liquids shall be stored within permitted Mixed Waste Storage Areas with secondary containment as described in Attachment III-1 of this Permit.

g. PCB markings in accordance with 40 CFR 761.45(a) shall be posted at all security gates and doors and at least 100-foot intervals on the artificial barrier.

h. PCB Transformers, other PCB Articles, and intact PCB Small Capacitors that have potential external contamination (staining) awaiting analytical results or decontamination (see 7.g.v. of this Attachment) shall be isolated from wastes that do not contain PCBs within the storage area so that all liquid contamination generated from these items shall be contained and absorbed (or otherwise managed) separately from other storage area liquid accumulation.

i. Shrink-wrapped PCB Transformers, other shrink-wrapped PCB Articles, and shrink-wrapped intact PCB Small Capacitors that do not have a generator surface decontamination certification (see 7.h.iii of this Attachment) shall be isolated from wastes that do not contain PCBs within the storage area so that all liquid contamination generated from these items shall be contained and absorbed (or otherwise managed) separately from other storage area liquid accumulation.

j. PCB waste shall be clearly labeled to identify the generator and the date of arrival. PCB waste movement shall be tracked in accordance with Attachment III-2, *Waste Identification and Tracking Plan*.

k. Large PCB Articles and Equipment shall be managed to prevent damage to the storage area surface. If damage occurs, the PCB Item shall immediately be moved to another location and the damaged area shall be isolated from the rest of the storage area so that liquid accumulation from other areas shall not contact the damaged area.

l. PCB waste shall be disposed within one year of acceptance at the Permittee's facility unless additional time is requested, in writing, prior to the conclusion of the one year period and approved by the Director.

m. Any storage area containing PCB waste shall be inspected to ensure that the waste is properly stored and that PCB Containers and/or PCB Items are not leaking.

    i. Storage area inspections shall be conducted daily, as part of the General Facility Inspection, in accordance with Attachment II-3, *Site Inspection Plan*.

n. If PCB Containers or PCB Items show evidence of leakage other than a stain, the Permittee shall implement Attachment II-6, *Contingency Plan.* Spills shall be managed in accordance with Section 15 of this Attachment.

o. Leaking PCB Containers or PCB Items shall be isolated from wastes that do not contain PCBs so that all liquid contamination from these items shall be contained and absorbed separately from other storage area liquid accumulation. By definition (40 CFR 761.3), external PCB contamination (stains) upon PCB Items constitutes a leaking condition.

10 PCB WASTE DISPOSAL

a. Bulk shipments of PCB bulk product and PCB remediation waste shall be offloaded and directly disposed within the Mixed Waste Landfill Cell provided that the bulk waste shipment has been accepted by the Permittee and met applicable provisions of this Permit, the TSCA Coordinated Approval, and allied Licenses or Permits.

b. PCB Waste, including drained PCB Transformers, other drained PCB Articles, drained PCB Containers, and intact non-leaking PCB Small Capacitors, shall be disposed within the Mixed Waste Landfill Cell in accordance with Module V, *Disposal in Landfills*.

c. For wastes that require thermal desorption processing, the solid residual wastes shall be disposed in the Mixed Waste Landfill Cell after processing has been completed in accordance with Attachment II-1-12 of this Permit.

d. Drained PCB Transformers and other drained PCB Articles and PCB Containers that have staining (minor or major), as defined in 7.g.v.1. of this Attachment, may be placed in the Mixed Waste Landfill Cell without further sampling or decontamination provided that the PCB Item is placed into final disposal position on the same day that the PCB Item was unloaded from the transport vehicle.

e. Shrink-wrapping may be cut or removed during placement of PCB Items in the Mixed Waste Landfill Cell in order to provide a free-flowing pathway for CLSM.

f. Disposal lift areas containing PCBs shall be covered to secure the exposed materials at the end of each working day. This covering may consist of:

   i. six inches of soil or soil-like non-PCB, non-hazardous material;

   ii. a commercial fixative, approved by the Director and applied in accordance with the manufacturer's instructions; or

   iii. alternative covers such as tarps and plastics, if approved by the Director prior to their use.

   iv. When waste is comprised of debris, etc. the material shall be blended with fill material. The blending provides security for the exposed materials and shall function equivalent to covering the PCBs with six inches of soil.

      1. After the blending has been completed the lift area(s) shall be visually inspected for the presence of dispersible debris. If dispersible debris is visible, it shall be covered in order to secure the dispersible debris prior to the end of the work day.

   v. Drained PCB Transformers, other drained PCB Articles, drained PCB Containers, and intact, non-leaking PCB Small Capacitors shall not require a covering. These items shall be placed in the cell in preparation of a CLSM pour for final disposal without cover.

vi. MACRO forms and other large debris that are not wind dispersible shall not require a covering. These items may be placed in the cell in preparation of a CLSM pour for final disposal without cover.

g. Within 30 days of the date of disposal of each item of PCB waste identified on a hazardous waste manifest, the Permittee shall prepare and provide to the generator a Certificate of Disposal in accordance with 40 CFR 761.218. The Certificate of Disposal shall include:

i. the identity of the disposal facility by name, address, and EPA identification number;

ii. the identity of the PCB waste affected by the Certificate of Disposal including reference to the manifest number for the shipment;

iii. a statement certifying the fact of disposal of the identified PCB waste, including the date(s) of disposal; and

iv. certification language defined in 40 CFR 761.3.

h. Certificates of Disposal shall be maintained in the operating record.

i. Incidental Liquid shall be managed in accordance with Attachment II-1-4, *Liquid Waste Management Plan*.

11 ENVIRONMENTAL MONITORING

a. Landfill leachate collected from sump areas of the Mixed Waste Landfill Cell that contain PCB Waste shall be sampled and analyzed for PCBs annually.

b. Groundwater Monitoring shall be performed in accordance with Module VI of this Permit. PCB analysis shall be performed using SW-846 Test Method 8082 or equivalent Test Method approved in writing by the Director. The Groundwater Concentration Limit for PCBs expressed as the total of all detectable Aroclors shall be 0.5 µg/L.

c. Semi-annual Soil Monitoring shall be performed in accordance with the Environmental Monitoring Program referenced at Condition 26 of the Radioactive Material License. Soil samples obtained from soil monitoring locations shall be analyzed for PCBs.

12 REPORTING AND NOTIFICATION REQUIREMENTS

a. The Permittee shall prepare an annual document log, in accordance with 40 CFR 761.180(b), by July 1 of each year for the previous calendar year. Data from the

annual document log will be used to prepare the annual report in 12.b. of this Attachment.

b. The Permittee shall submit to the Director and the Regional Administrator of EPA Region 8 an annual report on the amount of PCB waste received for the preceding calendar year on or before July 15. The Director may add or remove reporting elements to this report. This report shall contain the following elements, at a minimum:

   i. a summary of PCB waste amounts received and disposed by the PCB waste groups as described in 4.j. of this Attachment for each generator. At a minimum, this report shall contain all of the information required in 40 CFR 761.180(b) for a disposer and commercial storer of PCB waste;

   ii. the amount of PCB waste rejected by the Permittee, by generator;

   iii. the amount of PCB waste generated at the facility; and

   iv. the amount of PCB waste spilled at the site.

c. The Permittee shall submit leachate collection/removal volumes for each collection or leak detection sump to the Director and the Regional Administrator of EPA Region 8 on a quarterly basis (no later than 20 days following the end of the quarter).

   i. Leachate collection/removal volumes data may be submitted in an electronic format.

   ii. If the Permittee discovers the presence of liquid in the second-lowest leak detection system in quantities greater than fifteen gallons per acre per day; or if the Permittee discovers the presence of liquid in the lowest leak detection system in quantities greater than ten gallons per acre per day; the Permittee shall notify the Director and the Regional Administrator of EPA Region 8 within 72 hours of discovery.

   iii. If corrective action is required in accordance with Module V, *Disposal in Landfills*, or Module VI, *Groundwater Monitoring*, the Permittee shall report all activities to the Director and the Regional Administrator of EPA Region 8.

d. The Permittee shall submit groundwater and leachate monitoring data (collected in accordance with 11.a. and 11.b. of this Attachment) to the Director and the Regional Administrator of EPA Region 8 on an annual basis.

i. The reports should include, at a minimum, groundwater elevations for monitoring wells, analyses for PCBs, pH, specific conductance, chlorinated organics, and volumes of leachate collected from the sumps.

ii. The detection limits and report schedule shall conform to the requirements in Module V, *Disposal in Landfills*, and Module VI, *Groundwater Monitoring*.

iii. If the Permittee detects chlorinated organics at any leachate sump or monitoring well, the Director and the Regional Administrator of EPA Region 8 shall be notified within seven days of the discovery.

iv. Groundwater and leachate monitoring data may be submitted in an electronic format.

e. The results of semi-annual soil monitoring performed in accordance with 11.c. of this Attachment shall be submitted to the Director in an annual report on or before March 31 of the following year.

i. If PCBs are detected in the semi-annual soil samples, the Director shall be notified within seven days of discovery.

f. The Permittee shall submit to the Director copies of the following documents for wastes containing PCBs by the 20th day of the following month in which the waste was received:

i. Incoming Shipment Acceptance Procedure and Checklist;

ii. Notice to Transport, if applicable;

iii. Uniform Hazardous Waste Manifest, as required;

iv. Low-level Radioactive Waste Manifest; and

v. The PCB Waste Generator Certification.

g. The Permittee shall notify the Regional Administrator of EPA Region 8, in writing, in advance of any pending amendment to this Permit that involves conditions found at 40 CFR 761.75, or contains any new provisions concerning PCB waste which is not included in 40 CFR 761.75., which also requires Environmental Protection Agency approval.

h. For other modifications of existing conditions affecting PCB waste requirements, the Permittee shall notify the Regional Administrator of EPA Region 8 before or within five calendar days of the changes in this Permit.

13 DECONTAMINATION

a. All PCB decontamination activities requiring the use of liquids or solvents shall be performed at the Mixed Waste Facility.

b. Decontamination activities shall be performed in accordance with 40 CFR 761.79.

c. The Permittee shall not conduct or use decontamination methods not covered by 40 CFR 761 without prior written approval of the Regional Administrator of EPA Region 8 and the Director.

d. Decontamination of minor and major stains on PCB Items (see 7.g.v. of this Attachment) shall use the double wash/double rinse method of 40 CFR 761.375.

e. Decontamination activities should use methods that minimize the use of water or solvents and the release of PCBs to the environment.

f. Shipping containers of PCB Bulk Product Waste (as defined in R315-315-7) are not required to be decontaminated under 40 CFR 761.79 procedures after removal of all visible remnants of waste.

g. PCB Liquid waste generated from the use of water or solvents shall be managed as "decontamination waste and residues" in accordance with 40 CFR 761.79(g) and other applicable regulations.

14 REUSE OF CONTAINERS THAT HELD PCBs

a. Containers that held PCB wastes that came in direct contact with the container may be used for storage and transportation of waste at the Mixed Waste Facility. Other uses shall require approval, in writing, by the Director.

b. Containers that held PCB wastes shall be RCRA empty [defined in R315-2-7(b)(1) and (3)] prior to use with another waste stream.

c. Reused containers under this Section, shall be labeled as PCB-reused, stored, and disposed in accordance with this Attachment.

d. Containers that held PCB wastes for reuse shall not be released from the restricted area.

15 SPILL RESPONSE AND PREVENTION

a. Spill response shall be conducted in accordance with Attachment II-6, *Contingency Plan*, and 40 CFR 761 Subpart G. All contaminated PPE from spill response shall be managed as part of the waste stream clean-up.

16 RETENTION OF RECORDS

a. The Permittee shall retain Waste Profile Records, records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this Permit, and inspection records as part of the operating record of this Permit.

17 OFF-LOADING PCB/RADIOACTIVE WASTE USING THE ROTARY DUMP FACILITY

a. Prior to off-loading PCB/Radioactive Waste that requires Mixed Waste disposal within the Rotary Dump Facility, the Facility shall be posted with PCB markings in accordance with 40 CFR 761.45(a) in each compass direction surrounding the Facility and near the truck entrance/exit.

b. PCB/Radioactive Waste shall be removed from the Facility and cleaning/decontamination procedures shall begin within 72-hours of initial off-loading of PCB waste.

c. Residual water generated through off-loading operations or cleaning/decontamination activities shall be tested for PCBs and managed in accordance with appropriate sections of this Permit.

   i. Sludge accumulated in the Rotary Dump Facility liquid management sedimentation basin during PCB/Radioactive Waste off-loading operations shall also be tested for PCBs and managed in accordance with appropriate sections of this Permit.

d. Cleaning, Decontamination and Verification

   i. Upon completion of off-loading operations, concrete areas of the Facility shall be cleaned to a visibly clean criterion.

      A. Visibly clean means all observable contamination has been removed from surfaces. This includes the removal of all material that can be removed with a broom, shovel or other tool.

   ii. Verification that the concrete is not PCB contaminated shall be performed through random wipe testing of the surface. Further destructive testing of the area shall be performed during closure as described in Attachment II-7, *Closure Plan*.

A. Samples shall be collected within 24-hours of the surface verified visually clean.

B. The floor of the Facility shall be divided into four quadrants.

C. A random location shall be chosen from each quadrant and a standard wipe test sample collected, as defined in 40 CFR 761.123.

D. A fifth standard wipe test sample shall be collected randomly from the wall beneath the rotary equipment.

E. The standard wipe test samples shall be analyzed for PCBs.

(1). A result less than 10 µg/100 cm^2 indicates that surface decontamination is not required.

(2). A result greater than or equal to 10 µg/100 cm^2 indicates that the surface requires decontamination.

(a). Further decontamination, using an appropriate solvent as described in 40 CFR 761.79, shall be required of the area represented by the sample with results greater than or equal to 10 µg/100 cm^2.

(b). Within 24-hours of decontamination, two additional random wipe samples shall be collected from the area and analyzed for PCBs.

(c). The procedures of 17.d.i.E. shall be repeated until all wipe sample results are less than 10 µg/100 cm^2.

iii. Decontamination of the rotary and waste management equipment shall be performed using the movable equipment requirements in 40 CFR 761.79(c)(2)(i) which includes swabbing all surfaces that have contacted PCB waste with an appropriate solvent as defined in 40 CFR 761.79(c)(3)(iv).

a. Once completed, the equipment will no longer be PCB contaminated.

b. Residual liquid from this decontamination process shall be tested for PCBs and managed in accordance with appropriate sections of this Permit.

c. Residual solids (e.g., rags, PPE, etc.) shall be disposed in the Mixed Waste Landfill Cell.

d. Waste management equipment does not require decontamination if used solely for Mixed Waste management.

iv. After the cleaning/decontamination procedures of Conditions 17.d.ii. and 17.d.iii. have been completed and verified, the PCB markings of Condition 17.a. may be removed from the Facility.

e. Alternatively to Conditions 17.b., 17.c., and 17.d. of this Attachment, a barrier of non-PCB containing soil may be placed on the floor of the Rotary Dump Building prior to rolling non-liquid PCB/Radioactive Waste.

i. The soil barrier shall cover the entire "Tipping Floor" area to a nominal depth of at least six inches.

ii. PCB/Radioactive Waste shall be removed from the Rotary Dump Building within 10 days of off-loading.

iii. Decontamination of the concrete areas of the Rotary Dump Building will not be required; however, in order to call the concrete areas non-PCB contaminated, the area will be cleaned to visibly clean standards.

a. Visibly clean standards means that all observable contamination has been removed from surfaces. This criterion includes the removal of all material that can be removed with a broom, shovel or other tool.

b. All residual soil and waste shall be disposed in the Mixed Waste Landfill Cell.

iv. Decontamination of rotary and waste management equipment that has contacted PCBs shall be performed in accordance with Condition 17.d.iii.

v. After the procedures of Conditions 17.e.iii. and 17.e.iv. have been completed, the PCB marking of Condition 17.a. may be removed from the Facility.

END OF ATTACHMENT II-1-10

ATTACHMENT II-1-10.1

MANAGEMENT OF WASTE CONTAINING POLYCHLORINATED BIPHENYLS (PCBs) AT THE LLRW FACILITY

1. INTRODUCTION

This Attachment shall govern the acceptance, storage, and disposal of PCB wastes in the LLRW Facilities (Class A and Class A North Disposal Cells). This Attachment describes controls to prevent the introduction of PCB wastes to the environment; (e.g., natural soil, fugitive dust, or ground water); by addressing areas of characterization, acceptance, unloading, handling, storage, spill prevention and containment, liquid content, and wind dispersal.

2. SCOPE

This Attachment shall apply to all PCB/Radioactive Waste received at the Permittee's facility for management in the LLRW Disposal Cells, and subject to the Ground Water Quality Discharge Permit UGW450005, as amended, Radioactive Material License UT2300249, as amended, the Environmental Protection Agency (EPA) Approval for Shredder Operation to Process PCB Wastes for Land Disposal, as amended (TSCA Approval, dated January 28, 2008), and the Approval Order from the Utah Division of Air Quality DAQE-AN0717016-06, as amended. The Permittee shall not use any provision in any other issued Permit, Approval, or License to diminish or otherwise negate conditions of this Attachment.

3. OBJECTIVES

This Attachment is designed to prevent PCB waste from coming into direct contact with the environment (e.g., natural soils) or infiltrating into the groundwater at the facility. This Attachment outlines controls or requirements associated with:

a. PCB Waste Identification (Section 4)
b. Prohibitions (Section 5)
c. PCB Waste Characterization (Section 6)
d. PCB Waste Acceptance (Section 7)
e. Frequency of Analysis and Sample Collection (Section 8)
f. PCB Waste Storage (Section 9)
g. PCB Waste Disposal (Section 10)
h. Environmental Monitoring (Section 11)
i. Reporting and Notification (Section 12)
j. Decontamination (Section 13)
k. Spill Response and Prevention (Section 14)
l. Retention of Records (Section 15)

4. PCB WASTE IDENTIFICATION

a. The Permittee shall only accept PCB wastes (and non-PCB wastes as defined in 4.c.ii. of this Attachment) that are defined as PCB/Radioactive Waste.

b. PCB/Radioactive Waste shall be defined as wastes that are characterized as radioactive and that also contain PCBs.

c. PCB/Radioactive Waste to be accepted for disposal shall be subject to the following definitions:

i. PCB – Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contain such substance.

ii. PCB contamination levels shall be defined as follows:

1. Non-PCB "Waste" – PCBs or PCB items with PCB concentrations < 50 parts per million (ppm) that have not been diluted to attain the final concentration, or PCB Items in which the PCBs have been removed through the decontamination procedures of 40 CFR 761.79. Wastes that have been diluted to PCB concentrations < 50 ppm remain PCB or PCB-Contaminated "Waste" based upon the non-diluted PCB concentration. This exception is applicable to PCB bulk remediation wastes described in 4.d.i of this Attachment.

2. PCB-Contaminated "Waste" – PCBs or PCB Items containing PCBs at concentrations ≥ 50 ppm but < 500 ppm, or a non-porous surface having a surface PCB concentration > 10 μg/100 cm^2 but < 100 μg/100cm^2, measured by a standard wipe test as defined in 40 CFR 761.123.

iii. PCB Item – Any PCB Article, PCB Article Container, PCB Container, PCB Equipment, or anything that deliberately or unintentionally contains or has part of it any PCB or PCBs.

iv. Drained – All free-flowing liquids have been removed from the PCB item, and sufficient absorbent material added to absorb any residual free-liquids.

v. Decontamination – The appropriate procedures, defined in 40 CFR 761.79 shall be performed to remove PCBs from non-porous surfaces, concrete, and non-porous surfaces covered with a porous surface, such as paint or coating on metal.

vi. Incidental Liquid – Liquid from incidental sources, such as precipitation, condensation, leachate or load separation [40 CFR 761.60(a)(3)]. To be considered incidental liquid, the liquid must be analyzed and have a TOC less than 10% or a PCB concentration less than 500 ppm.

vii. General PCB Item definitions such as PCB-Contaminated Articles, PCB-Contaminated Electrical Equipment, PCB Containers, and PCB Article Containers are found in 40 CFR 761.3.

d. PCB/Radioactive waste to be accepted for disposal in accordance with this Attachment, shall meet the criteria specified in R315-315-7 (40 CFR 761) designated for disposal in a municipal or non-municipal non-hazardous landfill. The specific PCB waste types that meet the criteria include:

i. Bulk PCB remediation wastes include non-liquid soil, sediments, dredged materials, muds, sewage sludge, and industrial sludge with a PCB concentration < 50 ppm that were removed for disposal under 40 CFR 761.61(a) or (c) category. See R315-315-7(2)(a).

ii. Intact, non-leaking PCB Small Capacitors from fluorescent lights (R315-315-7(2)(c)) in which the potting material contains less than 50 ppm PCBs.

iii. PCB bulk product waste is defined as plastics (such as plastic insulation from wire or cable: radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; adhesives; paper; Galbestos; sound deadening or other types of insulation; felt or fabric products such as gaskets; non-liquid building demolition debris; or non-liquid PCB bulk product waste from the shredding of automobiles or household appliances from which PCB small capacitors have been removed (shredder fluff). See R315-315-7(3)(b)(i).

iv. Drained PCB-Contaminated (PCB Concentration ≥ 50 ppm but < 500 ppm) Electrical Equipment. See R315-315-7(3)(b)(ii).

v. Drained PCB-Contaminated (PCB Concentration ≥ 50 ppm but < 500 ppm) Articles. See R315-315-7(3)(b)(iii).

vi. Non-liquid cleaning materials and personal protective equipment waste at any concentration, including non-porous surfaces and other non-liquid materials such as rags, gloves, booties, other disposable personal protective equipment, and similar materials resulting from cleanup activities of PCB remediation wastes. See R315-315-7(3)(b)(iv).

vii. Other PCB bulk product waste, sampled in accordance with the protocols in 40 CFR 761 Subpart R, that leaches PCBs at < 10 micrograms per liter (µg/L; 10 parts per billion [ppb]) of water measured using a procedure used to simulate leachate generation. See R315-315-7(3)(b)(v).

viii. Non-liquid wastes from wastes generated as a result of research and development activities and chemical analysis of PCBs authorized under R315-315-7(3)(b)(vi).

e. Drained PCB Containers that were used to contain PCBs at concentrations ≥ 50 ppm but < 500 ppm may be accepted for disposal provided that all free liquid is drained from the container; however, a hazardous waste manifest is required for this waste type (See 40 CFR 761.60(c)).

i. PCB Containers that hold waste may be disposed as part of the waste and do not need to be manifested as a separate waste type.

f. Intact non-leaking PCB Small Capacitors may be accepted for disposal (see 40 CFR 761.60(b)(2)(ii)).

5. PROHIBITIONS

The prohibitions described in this part pertain to the receipt of waste containing PCBs that are received at the LLRW Facilities. These prohibited wastes may be acceptable at the Mixed Waste Facility. Refer to Attachment II-1-10 for prohibitions at the Mixed Waste Facility.

a. The Permittee is prohibited from receiving liquids that contain PCBs.

b. With the exception of non-liquid cleaning materials (see 4.d.v. of this Attachment), the Permittee is prohibited from receiving PCB Remediation Waste with a PCB concentration ≥ 50 ppm or PCB surface contamination ≥ 100 µg/100 cm^2.

c. The Permittee is prohibited from receiving non-liquid PCB remediation wastes with non-diluted PCB concentration ≥ 1 ppm that were removed for disposal under the performance-based disposal category (40 CFR 761.61(b)).

d. The Permittee is prohibited from receiving PCB Bulk Product Waste that is presumed or known to leach PCBs at ≥ 10 µg/L.

e. The Permittee is prohibited from receiving PCB Transformers previously containing PCBs at concentrations ≥ 500 ppm.

f. The Permittee is prohibited from receiving intact PCB Large Capacitors.

g. The Permittee is prohibited from receiving fluorescent light ballasts containing PCBs (≥ 50 ppm) in the potting material.

h. The Permittee is prohibited from receiving Hydraulic Machines previously containing PCBs at concentrations ≥ 1,000 ppm.

i. The Permittee is prohibited from receiving Hydraulic Machines previously containing PCBs at concentrations ≥ 1,000 ppm.

j. The Permittee is prohibited from receiving Hydraulic Machines previously containing PCBs at concentrations ≥ 50 ppm but < 1,000 ppm that have not been decontaminated in accordance with 40 CFR 761.79.

k. The Permittee is prohibited from receiving other drained PCB Articles previously containing PCBs at concentrations ≥ 500 ppm.

l. The Permittee is prohibited from receiving drained PCB Containers for disposal that were used to contain PCBs at concentrations ≥ 500 ppm unless they have been decontaminated in accordance with 40 CFR 761.79.

m. The Permittee is prohibited from receiving drained PCB Containers for disposal that were used to contain PCBs at concentrations ≥ 50 ppm and < 500 ppm without a uniform hazardous waste manifest.

n. The Permittee is prohibited from receiving PCB waste from a generator (or the generator's transporter) when there is not a current, valid, and acceptable Notice to Transport for the waste stream on file at the facility.

6. PCB WASTE CHARACTERIZATION

a. Prior to shipment, the Permittee shall obtain a description of the material to be managed at the facility. This characterization shall be documented using a Waste Profile Record.

b. The Permittee shall only use analytical-test methods in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, Third Edition, or equivalent methods approved by the Executive Secretary pursuant to R315-2-15.

c. PCB waste shall not be diluted in order to avoid any provision of specifying a PCB concentration in accordance with 40 CFR 761. PCB concentration determination shall be made from "as-found" sampling. Re-sampling of waste in containers shall not be considered "as-found" sampling.

d. PCB sampling and analysis is not necessary for "debris" waste types including those listed in 4.d.ii., 4.d.iii., 4.d.iv., 4.d.v., 4.d.vi., 4.e., and 4.f. of this Attachment.

e. Chemical analysis used to perform PCB quantitation shall be reported on a dry/weight or wet/weight basis as determined by the PCB waste form.

f. The Permittee shall only accept analytical results from a Utah Department of Health certified laboratory.

g. The Permittee shall make PCB waste management decisions based only on accurate and valid analytical data and information.

h. Only after the PCB components of the waste are characterized, analyzed, and meet all the provisions of this Attachment, and other allied Licenses and Permits, shall the Permittee provide the generator with a Notice to Transport. The Notice to Transport shall indicate that the waste contains PCBs.

i. The generator/transporter shall attach a PCB mark to all articles, equipment, and containers in accordance with 40 CFR 761.40. If the generator/transporter is not required to attach a PCB mark in accordance with 40 CFR 761.40 and the Permittee will be placing the PCB waste into storage, the Permittee shall place a label identifying the waste as PCB waste on each container according to the requirements of 40 CFR 761.45, prior to the end of the shift in which the waste was off-loaded.

j. Deferred Chemical Screening Parameters / PCB Analysis shall be performed on samples from incoming shipments in accordance with the current Waste Characterization Plan of the Radioactive Material License and R315-315-7 (40 CFR 761), if necessary.

7. PCB WASTE ACCEPTANCE

a. With the exception of drained PCB Containers and Intact PCB Small Capacitors, a uniform hazardous waste manifest is not required for PCB/Radioactive Waste acceptance at the LLRW Facilities.

b. The Permittee shall perform an initial inspection of the shipment and shipping papers for compliance with this permit, and Department of Transportation (DOT) and Division of Radiation Control (DRC) shipment regulations. Instances of non-compliance shall be recorded in the facility operating record.

c. Shipments shall be visually inspected and the inspection documented to confirm that the PCB waste meets the PCB waste types in the Waste Profile Record and that no other PCB waste classifications are present in the shipment.

d. Shipments shall be visually inspected and the inspection documented to assure that the waste liner, when used, has not been breached and PCB waste has not come into contact with the container.

i. If the PCB container or liner has been breached, or if the shipment does not contain a liner, the Permittee shall perform sampling and analysis in accordance with 40 CFR 761 to determine PCB contamination of the container / conveyance (e.g., railcar, intermodal) or dispose of the container / conveyance with its associated waste. If sampling results show that the container / conveyance is contaminated, it shall either be:

1. disposed of within a disposal cell; or

2. decontaminated in accordance with Section 13 this Attachment.

e. Drained PCB Items listed in 4.d.iv. and 4.d.v. of this Attachment shall be visually inspected to confirm that they are drained and that no free-flowing liquids are present.

f. The Permittee shall immediately withdraw its Notice to Transport to any generator whose PCB waste shipment has a container that has been breached. The Permittee shall not reinstate the Notice to Transport or issue a new Notice to Transport until a corrective action plan has been approved by the Permittee and notification has been provided to the Executive Secretary with a copy of the corrective action plan.

g. PCB/Radioactive Waste Acceptance

i. The Permittee shall visually inspect each shipment for free liquids. For containerized waste shipments, this inspection shall be conducted for each container in the shipment.

ii. If free liquids are present, one of the following actions shall be taken:

1. the entire shipment may be rejected for receipt and disposal and the waste shall be returned to the generator or another permitted facility that can accept the PCB liquid waste; or

2. the specific containers with free liquids within the shipment may be rejected for receipt and disposal and the waste shall be returned to the generator or another permitted facility that can accept the PCB liquid waste; or

3. The liquid may be sampled and analyzed for TOC or for PCBs and managed as an incidental liquid in accordance with 10.i. of this Attachment if the TOC is less than 10% or the total PCB concentration is less than 500 ppm; or

4. the container of liquid PCB waste may be re-profiled for management at the Mixed Waste Facility as a waste that is

permitted to have PCBs in liquid form; or

5. the liquid may be separated from the solid portion of the waste and re-profiled separately for management at the Mixed Waste Facility as a waste that is permitted to have PCBs in liquid form.

iii. If a shipment arrives in a leaking condition, the Permittee shall manage the leaking shipment in accordance with Attachment II-6, *Contingency Plan*.

iv. When a determination has been made to reject a shipment or containers within a shipment, the Permittee shall withdraw the Notice to Transport for all PCB waste streams from that particular generator. The Permittee shall not reinstate the Notice to Transport(s) or issue new Notice to Transport(s) until a corrective action plan has been approved by the Permittee and notification has been provided to the Executive Secretary with a copy of the corrective action plan and its approval.

v. Shipments of PCB waste which remain in transportation equipment or vehicles (rail cars, flatbeds, vans, trucks, etc.) and which are awaiting analyses or results may remain at the Permittee's facility for up to 30 days unless additional time is requested in writing and approved by the Executive Secretary in advance of the end of the 30 day limit.

h. PCB/Radioactive Waste Discrepancy Resolution

i. Where discrepancies are identified, the discrepancies shall be noted in the operating record and resolved with the generator.

ii. Discrepancies shall be addressed, resolved, and documented prior to disposal.

iii. Shipments with discrepancies may be placed in storage pending resolution.

iv. After discrepancies have been addressed and resolved, the shipment shall be managed in accordance with this Attachment.

v. Discrepancies, such as simple, non-factual typographical errors that are overlooked or discovered at a later date, shall be resolved by making corrections as information becomes available. Corrections shall be initialed and dated at the time when they are made.

vi. Discrepancies, when found, that change the required management of the waste shall be resolved and managed in accordance with the current Waste Characterization Plan of the Radioactive Material License.

vii. Should a shipment involve containers which are open, leaking, or extensively damaged, the Permittee shall manage the affected waste so that the shipment no longer has open, leaking, or extensively damaged containers and manage the shipment in accordance with Attachment II-6, *Contingency Plan,* or arrange for the return of the shipment to the generator. After two such occurrences from a generator, the Permittee shall withdraw the Notice to Transport for that waste stream. The Permittee shall not reinstate the Notice to Transport or issue a new Notice to Transport until a corrective action plan has been approved by the Permittee and notification has been provided to the Executive Secretary with a copy of the corrective action plan and its approval.

viii. Appearance discrepancies other than an appearance discrepancy with the PCB waste types in Section 4 of this Attachment, may be resolved by adding information to the Waste Profile Record following consultation with the generator. Such additional information shall be acknowledged by the generator's signature, identifying the information as true and correct.

ix. If the Permittee accepts a waste with a significant discrepancy in type (as defined in 7.c. of this Attachment) and the discrepancy is not resolved with the generator within 15 days after receiving the waste, the Permittee shall submit to the Executive Secretary and to the EPA Region 8 Administrator a copy of the manifest or shipping paper at issue and a letter describing the discrepancy and attempts to reconcile it by the end of the eighteenth day following acceptance.

x. When corrections or information are added to the manifest by the Permittee, initials and a date shall be included with the notation. Such additional information shall be acknowledged by the generator's signature, identifying the information as true and correct.

i. Requirements for waste with debris:

i. When PCB waste shipments solely contain material from the list of debris identified in 7.k.v. below (excluding absorbent material) and when these materials cannot be sampled reasonably and representatively, the Site Manager or authorized designee may waive the sampling and analysis of the non-sampleable portion of the PCB waste shipment.

ii. For the waste types defined in 4.d.ii., 4.d.iii., 4.d.iv., 4.d.v., 4.d.vi., 4.e., and 4.f of this Attachment, the Permittee may waive the PCB sampling and analytical requirements.

iii. When PCB sampling / analysis is waived, an explanation and justification shall be provided, and written documentation maintained in the operating record at the disposal site.

iv. If a PCB sampling / analysis waiver is granted, a copy of the documentation shall be submitted to the Executive Secretary by the 20th of the month following the month in which the PCB shipment was received.

v. Debris:

1. Commercial shaped solid-phase metals
2. Wood (excluding sawdust or shavings)
3. Concrete
4. Brick
5. Stone
6. Glass
7. Plastic
8. Rubber
9. Boots
10. Suits
11. Gloves
12. Sheet metal
13. Construction debris
14. Building debris
15. Empty containers
16. Wire

j. Non-Conforming Results:

i. If the results of the Deferred Chemical Screening Parameters analysis show that the waste is beyond the limits of the Radioactive Material License, or a discrepancy exists between the PCB/Radioactive Waste profiled and the PCB/Radioactive Waste received, the Permittee shall perform the following:

1. If the waste is not yet disposed, the Permittee shall:

A. Either manage it as Mixed Waste or return the waste to the generator or ship the waste to another facility that is permitted to manage the waste type.

B. Immediately withdraw the Notice to Transport for that waste stream. The Permittee shall not reinstate the Notice to Transport or issue a new Notice to Transport until a corrective action plan has been approved by the Permittee and notification has been provided to the Executive Secretary with a copy of the corrective action plan and its approval.

2. If the waste is disposed in a LLRW Disposal Cell, the Permittee

shall:

A. Within 24 hours of discovering that non-conforming material had been disposed, notify the Executive Secretary of the Utah Solid and Hazardous Waste Control Board and the Executive Secretary of the Utah Radiation Control Board of the situation.

B. Immediately withdraw the Notice to Transport for that waste stream. The Permittee shall not reinstate the Notice to Transport or issue a new Notice to Transport until a corrective action plan has been approved by the Permittee and notification has been provided to the Executive Secretary with a copy of the corrective action and its approval.

C. Within seven calendar days of the notice, provide the Executive Secretary of the Utah Solid and Hazardous Waste Control Board and the Executive Secretary of the Utah Radiation Control Board with a written description of the situation. The following information shall be included in the written description:

(1) Name of Generator;

(2) Name of Non-Conforming PCB Waste Stream;

(3) Amount of Non-Conforming Disposed PCB Waste;

(4) Location of Non-Conforming PCB Waste in Disposal Cell;

(5) Date Non-Conforming PCB Waste was Accepted;

(6) Date Non-Conforming PCB Waste was Placed in Disposal Cell;

(7) Description of Waste Placed on and Around Non-Conforming PCB Waste;

(8) Plan of Action for Resolving Non-Conformance; and a

(9) Compliance Schedule.

8. FREQUENCY OF SAMPLE COLLECTION AND ANALYSES REQUIREMENTS

a. One rail car (any type) may represent a nominal 100 cubic yards; multiple intermodal containers upon a railcar may represent a nominal 20 cubic yards per intermodal container; and one highway shipment (any type) may represent a

nominal 20 cubic yards. The Permittee may alternatively use the actual volumes for counting purposes. The Permittee shall indicate the use of actual or nominal volumes in the operating record and any reports, documents required by this Attachment, or requested by the Executive Secretary.

b. PCB/Radioactive Waste

i. Sample collection and frequency of analyses shall be performed in accordance with the current Waste Characterization Plan of the Radioactive Material License.

9. PCB WASTE STORAGE

a. Upon acceptance of a shipment, the Permittee shall manage PCB waste as either bulk PCB waste or containerized PCB waste.

b. Containerized PCB/Radioactive Waste may be stored over approved liner in the LLRW disposal cells.

c. Bulk or containerized PCB/Radioactive Waste may be stored on the Shredder Storage Pad in accordance with the requirements of the TSCA Approval.

d. PCB/Radioactive Waste received in railcars shall be managed in accordance with the Radioactive Material License.

e. Segregation is not required for PCB waste on the Shredder Storage Pad.

f. PCB markings in accordance with 40 CFR 761.45(a) shall be posted at the Shredder Storage Pad, in each fence compass direction surrounding the Storage Pad and near the truck entrance.

i. The LLRW disposal cells do not require PCB markings.

g. In order to clearly identify the generator number and the date on which PCB waste was unloaded, the Permittee shall mark or place legible labels on containers placed into storage.

h. At the Shredder Storage Pad, inspection of storage areas that contain PCB/Radioactive Waste shall be conducted daily, including weekends and holidays.

i. The daily inspection of the Shredder Storage Pad shall consist of visual observation of the physical integrity of visible areas of the storage area surface. Repairs shall be necessary when a "Discrepancy in Pad Integrity", as defined in Appendix K, Best Available Technology (BAT) Contingency Plan of the Groundwater Quality Discharge Permit, is noted. When repairs are needed, the Permittee shall ensure that they are completed on the date of discovery. All such activities shall be noted in the operating record of the facility.

i. Each year during the second quarter, the Permittee shall remove all waste from the Shredder Storage Pad and perform a comprehensive inspection of the surface. If repairs are needed, they shall be completed before storing PCB waste on the pad.

j. If repairs are performed on the Shredder Storage Pad, the EPA notification and reporting requirements described in the TSCA Approval shall be performed.

10. PCB WASTE DISPOSAL

a. Bulk PCB/Radioactive Waste that has been accepted and met the provisions of this Attachment and allied Licenses or Permits shall be offloaded and either directly disposed in a LLRW Disposal Cell or stored on the shredder pad in accordance with the requirements of the TSCA Approval.

b. PCB/Radioactive Waste shall be processed at the Shredder Facility in accordance with the requirements of the TSCA Approval and this Attachment.

c. PCB Small Capacitors (described in 4.d.ii. and 4.f. of this Attachment) shall not be processed through the Shredder.

d. PCB/Radioactive Waste shall be disposed in accordance with the LLRW and 11e.(2) Construction Quality Assurance/Quality Control Plan.

e. Radiation Work Permits (RWPs) shall be developed and issued for the disposal of PCB Waste. The RWPs shall be developed as follows:

i. The Waste Profile Record shall be evaluated to determine hazards for the waste stream; and

ii. All applicable regulations (e.g., OSHA and TSCA) shall be reviewed for each hazard to designate the proper personal protective equipment and handling techniques for PCB Waste.

f. Copies of the active RWPs issued under this Attachment shall be posted within the LLRW Operations Building while in effect.

g. Disposal lift areas containing PCBs shall be covered to secure the exposed materials at the end of each working day. This covering may consist of:

i. Six inches of soil or soil-like non-PCB, non-hazardous material;

ii. A commercial fixative, if approved by the Executive Secretary and applied in accordance with the manufacturer's instructions; or

iii. Alternative covers such as tarps and plastics, if approved by the Executive Secretary prior to their use.

h. When waste is comprised of debris, the material shall be blended with fill material. The fill material shall be considered the cover.

i. After the blending has been completed, the lift area shall be visually inspected for the presence of dispersible debris. If dispersible debris is visible it shall be covered in accordance with Condition 10.g. of this Attachment.

ii. Drained PCB-Contaminated Articles and PCB-Contaminated Electrical Equipment shall be placed in the disposal cell in preparation of a CLSM pour for final disposal without cover.

i. Incidental Liquid shall be managed in accordance with Attachment II-1-4, *Liquid Waste Management Plan*.

11. ENVIRONMENTAL MONITORING

a. Semi-annual Soil Monitoring shall be performed in accordance with the Environmental Monitoring Program referenced in Condition 26 of the Radioactive Material License. Soil samples obtained from soil monitoring locations shall be analyzed for PCBs.

b. At the request of the Executive Secretary groundwater monitoring samples shall be collected and analyzed for PCBs. Monitoring frequency shall be in accordance with Module VI of this Permit. Samples may be collected concurrent with LLRW sampling events. The analysis shall be performed using SW-846 Test Method 8082 or an equivalent Test Method, approved in writing by the Executive Secretary. The Groundwater Concentration Limit for PCBs expressed as the Sum of Aroclors shall be 7 μg/l.

c. During PCB shredding operations, sampling of accumulated wastewaters and sludges on the Shredder Pad shall be conducted in accordance with Condition 8 of the TSCA Approval.

d. Wastewater and sludge samples shall be collected semi-annually and analyzed for PCBs, in all evaporation ponds that have received water collected from the

Shredder Pad following PCB shredding operations.

12. REPORTING AND NOTIFICATION

a. The Permittee shall submit all reports and notifications concerning PCB Waste activities required by this Attachment or allied permits to the Executive Secretary of the Utah Solid and Hazardous Waste Control Board

b. The Permittee shall prepare an annual document log, in accordance with 40 CFR 761.180(b), by July 1 of each year for the previous calendar year. Data from the annual document log shall be used to prepare the annual report in 12.c. of this Attachment.

c. The Permittee shall submit to the Executive Secretary and to the Regional Administrator of EPA Region 8, an annual report on the amount of PCB waste received for the preceding calendar year on or before July 15. This report shall contain the following elements:

i. A summary of PCB waste amounts received and disposed by the PCB waste classification types as described in R315-315-7 for each generator;

ii. The amount of any PCB waste rejected by the Permittee per generator; and

iii. The amount of any PCB waste spilled at the site.

d. The results of semi-annual soil monitoring performed in accordance with Condition 11.a. of this Attachment shall be submitted to the Executive Secretary in an annual report on or before March 31 of the following year.

e. The Permittee shall submit to the Executive Secretary copies of the following documents for wastes containing PCBs by the 20th day of the following month in which the waste was received:

iv. Incoming Shipment Acceptance Procedure and Checklist;

v. Notice to Transport, if applicable;

vi. Uniform Hazardous Waste Manifest, as required;

vii. Low-Level Radioactive Waste Manifest; and

viii. The PCB Waste Generator Certification.

f. The Permittee shall submit results of the wastewater and sludge sampling described in Conditions 11.c. and 11.d. of this Attachment to the Executive Secretary and the Regional Administrator of EPA Region 8.

i. These results shall be reported within ninety (90) calendar days from the sampling event or thirty (30) calendar days from the time analytical results are received, whichever comes first.

13. DECONTAMINATION

a. All PCB decontamination activities requiring the use of liquids or solvents shall be performed at the Permittee's Mixed Waste Facility.

b. PCB decontamination activities shall be performed in accordance with the requirements of 40 CFR 761.79 or by an alternative method with prior written approval from the Executive Secretary.

c. The shipping containers of PCB Bulk Product Waste (as defined in R315-315-7) shall be considered decontaminated after removal of all visible remnants of bulk debris.

d. Liquid or solid waste generated from decontamination activities shall be profiled in accordance with applicable requirements of Section 6 of this Attachment or Attachment II-1-10, *Management of Waste Containing Polychlorinated Biphenyls (PCBs) at the Mixed Waste Facility*.

i. Disposition of the profiled waste shall be in accordance with the requirements of 40 CFR 761, and the Radioactive Material License or the State-issued Part B Permit.

14. SPILL RESPONSE AND PREVENTION

a. Spill response shall be conducted in accordance with Attachment II-6, *Contingency Plan* and 40 CFR 761 Subpart G. All contaminated PPE from spill response shall be managed as part of the waste stream clean-up.

15. RETENTION OF RECORDS

a. The Permittee shall retain waste profile records, records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this Attachment, and inspection records as part of the operating record.

END OF ATTACHMENT II-1-10.1

Message

From: Young, Jessica [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=26404C78D3DC441F810AC723CF8F9D49-JBIEGELS]
Sent: 7/24/2017 1:13:15 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: Update on Tradebe/TDU

I am out of the office Monday July 24th. If you have an urgent request, please contact George Faison at faison.george@epa.gov. Thanks.

Message

From: Colon, Lilybeth [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6AE6D0CC3F984B08B8101569A2CF6308-COLON, LILYBETH]
Sent: 7/21/2017 8:20:41 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Comment from MO on TDU Issue Paper
Attachments: PIT_Issue_Summary_TDUs (rn).docx

Comment from Rich Nussbaum, MDNR.

PIT_Issue_Sum...
(rn).docx

Lilybeth

Hazardous Waste Recycling Operations with Thermal Desorbers and Condensers

Problem Summary

Many commercial facilities recycle organic fractions of hazardous waste (HW) and oil-bearing hazardous secondary materials by heating them in thermal desorption units (TDUs) and later condensing the volatilized organics. The volatilized gas that doesn't condense is typically routed to an incinerator or flare. The condensed liquid is typically marketed as a HW derived fuel, an exempt on-specification used oil, an exempt input into a petroleum refinery process, a legitimate non-fuel product (a degreaser, for example), or a combination thereof, depending on the type of material being processed.

Numerous questions have been raised by regulated industry, Regions, and states about how these HW recycling operations should be regulated. The Environmental Technology Council has also threatened to file a citizen suit against EPA for not appropriately and consistently regulating these types of facilities.

We recommend this topic be elevated and prioritized in the Permit Integrity Team process. Specific questions/issues needing assessment/resolution at the national level include:

- Should these activities be classified as HW treatment activities requiring a RCRA permit, or as exempt recycling operations?
    - What is legitimate recycling (valued based or quantity based)?
    - Does it make any difference if various physical and thermal treatment units are in one package (box) as opposed to being physically separated?
- Assuming the TDU is exempt:
    - Is a physical treatment unit (e.g., a centrifuge) prior to the TDU exempt?
    - Is the thermal oxidizer exempt if it is considered a combustion unit even if the TDU is exempt?
    - What is the applicable disposal criteria for residue generated in an exempt TDU?
- If a thermal treatment permit is required, should the process be regulated as an incinerator or subpart X treatment unit?
    - Are flares allowable treatment devices? If yes, do we require standards similar to what otherwise would be required for incinerators?
    - When is the thermal process a combustion unit as opposed to an air pollution control device?
        - Is it based on quantity (% of organics or amount combusted) or physical configuration?
- Can we instead regulate these types of operations similarly to how the regulations apply to HW recycling operations applicable to distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations?
    - Emission standards for process vents and equipment leaks apply to the above 4 types of HW recycling operations if the facility is required to get a RCRA permit for other activities at the facility (e.g., storage).

        - 261.6(d) says: "Owners or operators of facilities subject to RCRA permitting requirements with HW management units that recycle HW are subject to the requirements of subparts AA and BB of parts 264, 265 or 267 of this chapter".
    - Likely would require regulatory change
- Impact of recent court decision on DSW rule (including verified recycler exemption) will need to be assessed.

Point of Contact

Michael Galbraith, ORCR (Permits Branch)

Potential Actions and Deliverables

Policy assessment and development. Communicate recommendations to Regions and states.

Milestones

This issue, to a certain degree, is currently "work in progress" since we had to prioritize a facility-specific assessment because ETC threatened to file a citizen suit against EPA for not requiring a facility named Tradebe in East Chicago, Indiana to get a RCRA treatment permit. As a result, some of the information gathering activities and issue assessments have already been worked on. Nonetheless, we believe it will be necessary to continue to assess these issues broadly on a national basis. We anticipate that options development (for management decision) can be completed within a year after the decision is made to prioritize this issue. Key milestones for this project would include:

- Identify past/present universe of HW recycling facilities utilizing TDUs/condensers;
- Finish identifying policy/technical/legal issues that could influence information needed to be gathered/assessed;
- Identify key information that would be needed to be gathered to develop and assess options;
- Complete information gathering needed for policy options development; and
- Complete options development for management decisions.

Anticipated Results

Better ensure these recycling operations are consistently regulated in accordance with RCRA and in a manner that is protective of human health and the environment.

Anticipated Challenges

Complicated subject matter, especially since the line delineating between exempt thermal recycling activities and thermal hazardous waste recycling activities that require RCRA treatment permits is not clearly defined. Most of the facilities operating with these types of processes claim much of their design info as RCRA confidential business information, which makes assessment burdensome, especially for a pseudo-workgroup. This will require assessment of many facilities with many different designs. Recent court decision on DSW/verified recycler exemption may impact ability to reach a timely conclusion.

Appointment

From: Sasseville, Sonya [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9302BD775FA84BEBBBE0C430316F76C6-SSASSEVI]
Sent: 7/21/2017 7:46:38 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]

Subject: Accepted: Tradebe and TDUs
Location: DCRoomPYS6100Projector/DC-Potomac-Yard-South-ORCR

Start: 7/27/2017 7:00:00 PM
End: 7/27/2017 8:00:00 PM
Show Time As: Busy

Message

From: Gerhard, Sasha [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=409F48684EB4422CB13177FC9702D0FA-GERHARD, SASHA]
Sent: 6/29/2017 6:07:35 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: face to face with tradebe

I am currently out of the office and will respond to your message upon my return on July 5th.

To: Galbraith, Michael[Galbraith.Michael@epa.gov]
From: Ruffatto, Kenneth
Sent: Fri 6/16/2017 6:04:03 PM
Subject: Automatic reply: Tradebe CBI substantiation letter draft

I am currently out of the office until June 19, 2017. I will not have access to my email until I return and will respond as soon as I can.

Thank you,

Ken Ruffatto

To: Galbraith, Michael[Galbraith.Michael@epa.gov]
From: Setnicar, Mary
Sent: Fri 6/16/2017 6:04:03 PM
Subject: Automatic reply: Tradebe CBI substantiation letter draft

I am out of the office and will respond to your email when I return.

In the meantime, Jae Lee is the acting section chief

To: Galbraith, Michael[Galbraith.Michael@epa.gov]
From: Victorine, Gary
Sent: Fri 6/16/2017 6:04:02 PM
Subject: Automatic reply: Tradebe CBI substantiation letter draft

I will be out of the office Friday afternoon 6/16/17 --

Acting for me will be Julie Morris 312-886-0863

To: rjean@idem.in.gov[rjean@idem.in.gov]
Cc: Valentino, Michael[Valentino.Michael@epa.gov]; Galbraith, Michael[Galbraith.Michael@epa.gov]; Setnicar, Mary[Setnicar.Mary@epa.gov]; Chow, Kevin[chow.kevin@epa.gov]; Cunningham, Michael[cunningham.michael@epa.gov]
From: Lee, Jae
Sent: Thur 6/1/2017 3:55:47 PM
Subject: RE: Tradebe Status

Thank you Ruth.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Thursday, June 01, 2017 10:52 AM
To: Lee, Jae <lee.jae@epa.gov>
Subject: RE: Tradebe Status

We have not received a permit appeal. We would know by now if a permit appeal had been filed.

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Wednesday, May 24, 2017 12:53 PM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Subject: RE: Tradebe Status

Ruth,

Do you have anyone petitioned for appeal of the State RCRA final permit for Tradebe?

Does the appeal deadline passed or do we need to wait couple more days? HQ is very anxious to know.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Wednesday, April 19, 2017 9:55 AM
To: Lee, Jae <lee.jae@epa.gov>
Subject: RE: Tradebe Status

Jae,

Per our issued guidance: "If you object to this decision issued by the Indiana Department of Environmental Management (IDEM) and are: 1) the person to whom the decision was directed, 2) a party specified by law as being eligible to appeal, or 3) aggrieved or adversely affected by the decision, you are entitled to file an appeal. (An aggrieved or adversely affected person is one who would be considered by the court to be negatively impacted by the decision. If you file an appeal because you feel that you are aggrieved, it will be up to you to demonstrate in your appeal how you are directly impacted in a negative way by the decision)."

If you would like an interpretation of what this means, you should talk with one of our attorneys. I recommend April Lashbrook. 317-233-1805.

Thanks,

Ruth

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Wednesday, April 19, 2017 10:47 AM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Cc: Galbraith, Michael <Galbraith.Michael@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>; Cunningham, Michael <cunningham.michael@epa.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>; NADDY, JOHN <JNADDY@idem.IN.gov>
Subject: RE: Tradebe Status

Thanks, Ruth

So I will take that ETC can appeal the IDEM's draft RCRA permit even if they have not submitted review comments during the comment period, though I am not sure how they can demonstrate they are an adversely affected party.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Wednesday, April 19, 2017 9:33 AM
To: Lee, Jae <lee.jae@epa.gov>
Subject: RE: Tradebe Status

Jae,

If the petitioner can demonstrate that they are an aggrieved or adversely affected party, then they can appeal.

Thanks,

Ruth

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Wednesday, April 19, 2017 9:49 AM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Subject: RE: Tradebe Status

Ruth,

One other questions is that can ETC appeal your permit of they have not submitted comment during the public comment period? The federal rule is that only the people who has submitted comment during the public comment period can appeal the permit to the portion of the permit they hhave commented.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Wednesday, April 19, 2017 5:17 AM
To: Lee, Jae <lee.jae@epa.gov>
Subject: RE: Tradebe Status

I have not received any comments. If I do, you will see the comments when I respond to them with the issuance of the final decision in approximately 4-6 weeks.

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Tuesday, April 18, 2017 10:41 AM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Subject: RE: Tradebe Status

Ruth,

I guess the public comment period for the RCRA draft permit for Tardebe is ended.

Was ETC submitted any comments for the draft permit? If they did, can you share with us?

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Wednesday, April 12, 2017 10:34 AM
To: Lee, Jae <lee.jae@epa.gov>
Subject: RE: Tradebe Status

No

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Wednesday, April 12, 2017 11:30 AM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Subject: RE: Tradebe Status

Ruth
Has the Environmental Technology Council submitted review comments for the State RCRA draft permit for Tradebe?

Jae

From: Lee, Jae
Sent: Monday, April 10, 2017 10:43 AM
To: 'JEAN, RUTH' <RJEAN@idem.IN.gov>
Cc: John Naddy <jnaddy@idem.in.gov>; Setnicar, Mary <setnicar.mary@epa.gov>; SCHROER, CRAIG <CSCHROER@idem.IN.gov>; Valentino, Michael <valentino.michael@epa.gov>
Subject: Tradebe Status

Ruth,

I would like to let you know that we received response (mostly CBI) for the information request of the Desorption Units from Tradebe.

We have a meeting scheduled with Tradebe's representatives on April 12 at Chicago to discuss mass balance aspects of the units.

We are also scheduled a conference call with HQ and Region 6 on April 17.

If things are moving well, we might able to send a memo to HQ of the Region 5's position on this permit exemption issue by the end of April or early May.

Please let me know if you have any questions.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Tuesday, February 07, 2017 11:26 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: Valentino, Michael <Valentino.Michael@epa.gov>; John Naddy <jnaddy@idem.in.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>
Subject: RE: Tradebe waste derived fuel issue

Jae,

As I've informed you before, any questions related to the SDS decision should be directed to John Naddy.

When you called earlier, you asked if Tradebe generates HW fuels from their fuel blending operations, and who utilizes those fuels. For clarification, my answers were in relation to their permitted fuel blending operations only. I want to ensure that you did not think I was discussing the SDS unit.

For future reference, please understand that I cannot answer any questions regarding the SDS units. I am not familiar with the SDS, nor was I involved in the original decision. I can only answer questions regarding their hazardous waste permit.

Thanks,

Ruth

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Tuesday, February 07, 2017 11:33 AM
To: JEAN, RUTH
Cc: Valentino, Michael
Subject: Tradebe waste derived fuel issue

Ruth,

HQ came up a question that the IDEM's March 31, 2006 letter (attached) states that, in the second page, fifth paragraph,
" If the unit was used to produce fuels or merely for treatment, the unit would require a HW treatment permit".

Since Tradebe generates hazardous waste derived fuels for the blending to send to off-site cement kilns, should they be required to have a treatment permit?

Any thoughts on this? This letter was referenced in the CAA permit.

Jae

To: John Naddy[jnaddy@idem.in.gov]
Cc: Galbraith, Michael[Galbraith.Michael@epa.gov]; KIZER, BRUCE[BKIZER@idem.IN.gov]; Valentino, Michael[Valentino.Michael@epa.gov]
From: Lee, Jae
Sent: Thur 6/1/2017 2:06:01 PM
Subject: RE: 2 questions on Tradebe

John, Thank you for the information.

Very helpful. We need to research more about the BB applicability.

Jae

From: NADDY, JOHN [mailto:JNADDY@idem.IN.gov]
Sent: Thursday, June 01, 2017 8:54 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: Galbraith, Michael <Galbraith.Michael@epa.gov>; KIZER, BRUCE <BKIZER@idem.IN.gov>
Subject: RE: 2 questions on Tradebe

Jae-
Thanks for the questions. In looking into the issues of Subparts AA and BB applicability to the Tradebe Solids Distillation Units, here is what I found:

40 CFR 261.6(d) states the following:

> (d) Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of subparts AA and BB of part 264, 265 or 267 of this chapter.

When you look at 40 CFR 264.1030(e) Applicability it states:

> (e) The requirements of this subpart do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subpart are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with, or made readily available with, the facility operating record.

Both of the Tradebe Solids Distillation System (SDS) units are included in the CAA Title V Permit issued on 10-31-2016 by the Indiana Department of Environmental Management Office of Air Quality. (See Link to IDEM VFC Document #80372402 Below)

As to the applicability of Subpart BB, I am wondering about the following:

- Since the Tradebe SDS units are distilling volatile organics from solids and Subpart BB is applicable to fugitive emission from equipment managing hazardous waste fluids, is subpart BB applicable to the SDS units?
- The waste entering the unit is a solid. The wastes exiting the unit are a solid hazardous waste char being disposed and water being fuel blended. Solvent recovered during the process is a product.
- Since the CAA Permit would also cover any pumps, compressors, pressure-relief valves, and valves, would the RCRA Subpart BB still be applicable?

John Naddy
Technical Environmental Specialist
Compliance and Response Branch
Office of Land Quality
Indiana Department of Environmental Management
317-233-0404

VFC Doc #80372402
https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80372802&dDocName=80372402&Rendition=web&allowInterrupt=1&noSaveAs=1&fileName=80372402.pdf

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From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Wednesday, May 31, 2017 2:37 PM

To: NADDY, JOHN <JNADDY@idem.IN.gov>
Subject: FW: 2 questions on tradebe

John,

We have a question why 40 CFT 264 Subpart AA would not be applicable to Tradebe's SDS unit.

Would the SDS be not classified as a Subpart AA unit (i.e., distillation)?

Would 40 CFR 261.6(d) would be applicable to SDS?

Would the waste processed in the Tradebe's SDS be considered as a recyclable materials not as hazardous waste?

Any response would be appreciated.

Jae

From: Lee, Jae
Sent: Wednesday, May 31, 2017 11:16 AM
To: Galbraith, Michael <Galbraith.Michael@epa.gov>; Valentino, Michael <valentino.michael@epa.gov>
Cc: Gerhard, Sasha <Gerhard.Sasha@epa.gov>
Subject: RE: 2 questions on tradebe

It may be considered as recyclable materials not as hazasous waste.

I will pose this question to IDEM.

Jae

From: Galbraith, Michael
Sent: Wednesday, May 31, 2017 10:22 AM
To: Lee, Jae <lee.jae@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
Cc: Gerhard, Sasha <Gerhard.Sasha@epa.gov>
Subject: RE: 2 questions on tradebe

Im not an expert in aa requirements, and I am not second guessing the state (just trying to understand positions various entities could take), but doesn't aa apply per 261.6d?

Mike Galbraith
Permits Branch (5303P)
Program Implementation/Information Division
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

(703) 605-0567

From: Lee, Jae
Sent: Wednesday, May 31, 2017 10:53 AM
To: Galbraith, Michael <Galbraith.Michael@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
Subject: RE: 2 questions on tradebe

Mike,

IDEM thinks, per 40 CFR 261. 6 (c)(1), the process can be exempted as a recyclable process and AA can be exempted.

And also, as you implied, per 40 CFR 40 CFR 264.1030(e), CAA can set up requirements for the SDS with control device.

I think, both Tradebe and IDEM, do not think the AA applicability due to recyclable exemption status.

Jae

From: Galbraith, Michael
Sent: Wednesday, May 31, 2017 6:29 AM
To: Lee, Jae <lee.jae@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
Cc: Gerhard, Sasha <Gerhard.Sasha@epa.gov>
Subject: 2 questions on tradebe

I'm still trying to figure out why subpart aa does not apply to the sds operations at tradebe. Why doesn't their configuration meet the definition of distillation unit?

It may not matter much as long as the condenser effluent gases are control by an equivalent CAA requirement. Is that the case?

Thoughts?

Mike Galbraith
Permits Branch (5303P)
Program Implementation/Information Division
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

(703) 605-0567

To: Lee, Jae[lee.jae@epa.gov]
Cc: Galbraith, Michael[Galbraith.Michael@epa.gov]; KIZER, BRUCE[BKIZER@idem.IN.gov]
From: NADDY, JOHN
Sent: Thur 6/1/2017 1:53:50 PM
Subject: RE: 2 questions on Tradebe

Jae-
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John Naddy
Technical Environmental Specialist
Compliance and Response Branch
Office of Land Quality
Indiana Department of Environmental Management
317-233-0404

VFC Doc #80372402
https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80372802&dDocName=80372402&Rendition=web&allowInterrupt=1&noSaveAs=1&fileName=80372402.pdf

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From: Lee, Jae [mailto:lee.jae@epa.gov]
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Subject: FW: 2 questions on tradebe

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Any response would be appreciated.

Jae

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Sent: Wednesday, May 31, 2017 11:16 AM
To: Galbraith, Michael <Galbraith.Michael@epa.gov>; Valentino, Michael <valentino.michael@epa.gov>
Cc: Gerhard, Sasha <Gerhard.Sasha@epa.gov>
Subject: RE: 2 questions on tradebe

It may be considered as recyclable materials not as hazasous waste.

I will pose this question to IDEM.

Jae

From: Galbraith, Michael
Sent: Wednesday, May 31, 2017 10:22 AM
To: Lee, Jae <lee.jae@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
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Mike Galbraith
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Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

(703) 605-0567

From: Lee, Jae
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To: Galbraith, Michael <Galbraith.Michael@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
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Jae

From: Galbraith, Michael
Sent: Wednesday, May 31, 2017 6:29 AM
To: Lee, Jae <lee.jae@epa.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
Cc: Gerhard, Sasha <Gerhard.Sasha@epa.gov>
Subject: 2 questions on tradebe

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Thoughts?

Mike Galbraith
Permits Branch (5303P)
Program Implementation/Information Division
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

(703) 605-0567

Message

From: Kohler, Amanda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=665A6CDD3371457FB03D5184F58F7A4A-KOHLER, AMANDA]
Sent: 4/17/2017 2:27:59 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: RE: Tradebe Status

Mike – I can't catch up on Tradebe today, but just wanted to drop a note to say thanks for your work here!

Amanda Kohler
703-347-8975

From: Galbraith, Michael
Sent: Monday, April 17, 2017 10:12 AM
To: Atagi, Tracy <Atagi.Tracy@epa.gov>
Cc: Young, Jessica <Young.Jessica@epa.gov>; Behan, Frank <Behan.Frank@epa.gov>; Kohler, Amanda <Kohler.Amanda@epa.gov>
Subject: Re: Tradebe Status

yep - 2-3 our time tomorrow - i'll forward y'all the invite (I just got it)

Mike Galbraith
Permits Branch (5303P)
Program Implementation/Information Division
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

From: Atagi, Tracy
Sent: Monday, April 17, 2017 9:58 AM
To: Galbraith, Michael
Cc: Young, Jessica
Subject: Re: Tradebe Status

This would be 2:00 pm our time, right? I should be able to make it unless I'm needed at the ORCR SWERLO general (right now I don't think that any of my topics are likely to come up)

From: Galbraith, Michael
Sent: Monday, April 17, 2017 9:55 AM
To: Atagi, Tracy
Subject: Fw: Tradebe Status

are you available Tuesday to talk to idem - see below

Mike Galbraith
Permits Branch (5303P)
Program Implementation/Information Division
Office of Resource Conservation and Recovery
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

From: NADDY, JOHN <JNADDY@idem.IN.gov>
Sent: Monday, April 17, 2017 9:53 AM
To: Lee, Jae
Cc: KIZER, BRUCE; rjean@idem.in.gov; Valentino, Michael; Setnicar, Mary; Galbraith, Michael
Subject: RE: Tradebe Status

Jae-
Let's shoot for the 18th 1:00 p.m. – 2:00 p.m. CDT. Please let me know the conference call numbers to call in. Thanks.

John Naddy
Technical Environmental Specialist
Compliance and Response Branch
Office of Land Quality
Indiana Department of Environmental Management
317-233-0404

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Friday, April 14, 2017 9:39 AM
To: NADDY, JOHN <JNADDY@idem.IN.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; JEAN, RUTH <RJEAN@idem.IN.gov>; Valentino, Michael <Valentino.Michael@epa.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>; Galbraith, Michael <Galbraith.Michael@epa.gov>
Subject: RE: Tradebe Status

John,

We can have a separate call with IDEM and HQ after our call with everyone.
(We have a call with HQ and R6 on 4/17, 11:00 am, CDT, for an hour, but it could be a little longer.)

We can brief you the status of the exemption issue and what we have discussed during the call with R6.

We can have a call with you either on April 17, 2:00 -2:30 pm, CDT or on 4/18 1:00 pm – 2:00 pm, CDT.

Please let me know which time zone is better for you or any other time you would prefer?

Jae

From: Lee, Jae
Sent: Thursday, April 13, 2017 4:25 PM
To: 'NADDY, JOHN' <JNADDY@idem.IN.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; rjean@idem.in.gov
Subject: RE: Tradebe Status

John,

After discussing with HQ and R6 about IDEM's participation, we thought this would be better to have an EPA-only call to discuss different aspects of the issue.

I wish you would understand this.

I will discuss with our management for any pre-discussion of our findings with IDEM.

Jae

From: NADDY, JOHN [mailto:JNADDY@idem.IN.gov]
Sent: Thursday, April 13, 2017 11:56 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; rjean@idem.in.gov
Subject: RE: Tradebe Status

Mr. Lee-

Is it possible to join the April 17th conference call between EPA Regions 5 and 6 and Headquarters discussing the Tradebe solids distillation system? Also, will it be possible to get a copy of the draft memo from Region 5 to Headquarters stating the Region's position on the issue?

John Naddy
Technical Environmental Specialist
Compliance and Response Branch
Office of Land Quality
Indiana Department of Environmental Management
317-233-0404

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Monday, April 10, 2017 11:43 AM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Cc: NADDY, JOHN <JNADDY@idem.IN.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>; SCHROER, CRAIG <CSCHROER@idem.IN.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
Subject: Tradebe Status

Ruth,

I would like to let you know that we received response (mostly CBI) for the information request of the Desorption Units from Tradebe.

We have a meeting scheduled with Tradebe's representatives on April 12 at Chicago to discuss mass balance aspects of the units.

We are also scheduled a conference call with HQ and Region 6 on April 17.

If things are moving well, we might able to send a memo to HQ of the Region 5's position on this permit exemption issue by the end of April or early May.

Please let me know if you have any questions.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Tuesday, February 07, 2017 11:26 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: Valentino, Michael <Valentino.Michael@epa.gov>; John Naddy <jnaddy@idem.in.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>
Subject: RE: Tradebe waste derived fuel issue

Jae,

As I've informed you before, any questions related to the SDS decision should be directed to John Naddy.

When you called earlier, you asked if Tradebe generates HW fuels from their fuel blending operations, and who utilizes those fuels. For clarification, my answers were in relation to their permitted fuel blending operations only. I want to ensure that you did not think I was discussing the SDS unit.

For future reference, please understand that I cannot answer any questions regarding the SDS units. I am not familiar with the SDS, nor was I involved in the original decision. I can only answer questions regarding their hazardous waste permit.

Thanks,

Ruth

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Tuesday, February 07, 2017 11:33 AM
To: JEAN, RUTH
Cc: Valentino, Michael
Subject: Tradebe waste derived fuel issue

Ruth,

HQ came up a question that the IDEM's March 31, 2006 letter (attached) states that, in the second page, fifth paragraph, " If the unit was used to produce fuels or merely for treatment, the unit would require a HW treatment permit".

Since Tradebe generates hazardous waste derived fuels for the blending to send to off-site cement kilns, should they be required to have a treatment permit?

Any thoughts on this? This letter was referenced in the CAA permit.

Jae

To: John Naddy[jnaddy@idem.in.gov]
Cc: KIZER, BRUCE[BKIZER@idem.IN.gov]; rjean@idem.in.gov[rjean@idem.in.gov]; Valentino, Michael[Valentino.Michael@epa.gov]; Setnicar, Mary[Setnicar.Mary@epa.gov]; Galbraith, Michael[Galbraith.Michael@epa.gov]
From: Lee, Jae
Sent: Mon 4/17/2017 2:07:16 PM
Subject: RE: Tradebe Status

Thank you John,

We can have an hour call on April 18, 2017, 1:00 pm, CDT.

I could not reserve a call-in line.

Can we use either HQ or State line??

Jae

From: NADDY, JOHN [mailto:JNADDY@idem.IN.gov]
Sent: Monday, April 17, 2017 8:53 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; rjean@idem.in.gov; Valentino, Michael <Valentino.Michael@epa.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>; Galbraith, Michael <Galbraith.Michael@epa.gov>
Subject: RE: Tradebe Status

Jae-
Let's shoot for the 18th 1:00 p.m. – 2:00 p.m. CDT. Please let me know the conference call numbers to call in. Thanks.

John Naddy
Technical Environmental Specialist
Compliance and Response Branch
Office of Land Quality
Indiana Department of Environmental Management
317-233-0404

From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Friday, April 14, 2017 9:39 AM
To: NADDY, JOHN <JNADDY@idem.IN.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; JEAN, RUTH <RJEAN@idem.IN.gov>; Valentino, Michael <Valentino.Michael@epa.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>; Galbraith, Michael <Galbraith.Michael@epa.gov>
Subject: RE: Tradebe Status

John,

We can have a separate call with IDEM and HQ after our call with everyone.
(We have a call with HQ and R6 on 4/17, 11:00 am, CDT, for an hour, but it could be a little longer.)

We can brief you the status of the exemption issue and what we have discussed during the call with R6.

We can have a call with you either on April 17, 2:00 -2:30 pm, CDT or on 4/18 1:00 pm – 2:00 pm, CDT.

Please let me know which time zone is better for you or any other time you would prefer?

Jae

From: Lee, Jae
Sent: Thursday, April 13, 2017 4:25 PM
To: 'NADDY, JOHN' <JNADDY@idem.IN.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; rjean@idem.in.gov
Subject: RE: Tradebe Status

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After discussing with HQ and R6 about IDEM's participation, we thought this would be better to have an EPA-only call to discuss different aspects of the issue.

I wish you would understand this.

I will discuss with our management for any pre-discussion of our findings with IDEM.

Jae

From: NADDY, JOHN [mailto:JNADDY@idem.IN.gov]
Sent: Thursday, April 13, 2017 11:56 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: KIZER, BRUCE <BKIZER@idem.IN.gov>; rjean@idem.in.gov
Subject: RE: Tradebe Status

Mr. Lee-

Is it possible to join the April 17th conference call between EPA Regions 5 and 6 and Headquarters discussing the Tradebe solids distillation system? Also, will it be possible to get a copy of the draft memo from Region 5 to Headquarters stating the Region's position on the issue?

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From: Lee, Jae [mailto:lee.jae@epa.gov]
Sent: Monday, April 10, 2017 11:43 AM
To: JEAN, RUTH <RJEAN@idem.IN.gov>
Cc: NADDY, JOHN <JNADDY@idem.IN.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>; SCHROER, CRAIG <CSCHROER@idem.IN.gov>; Valentino, Michael <Valentino.Michael@epa.gov>
Subject: Tradebe Status

Ruth,

I would like to let you know that we received response (mostly CBI) for the information request of the Desorption Units from Tradebe.

We have a meeting scheduled with Tradebe's representatives on April 12 at Chicago to discuss mass balance aspects of the units.

We are also scheduled a conference call with HQ and Region 6 on April 17.

If things are moving well, we might able to send a memo to HQ of the Region 5's position on this permit exemption issue by the end of April or early May.

Please let me know if you have any questions.

Jae

From: JEAN, RUTH [mailto:RJEAN@idem.IN.gov]
Sent: Tuesday, February 07, 2017 11:26 AM
To: Lee, Jae <lee.jae@epa.gov>
Cc: Valentino, Michael <Valentino.Michael@epa.gov>; John Naddy <jnaddy@idem.in.gov>; Setnicar, Mary <Setnicar.Mary@epa.gov>
Subject: RE: Tradebe waste derived fuel issue

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When you called earlier, you asked if Tradebe generates HW fuels from their fuel blending operations, and who utilizes those fuels. For clarification, my answers were in relation to their permitted fuel blending operations only. I want to ensure that you did not think I was discussing the SDS unit.

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To: JEAN, RUTH
Cc: Valentino, Michael
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Any thoughts on this? This letter was referenced in the CAA permit.

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Message

From: NADDY, JOHN [JNADDY@idem.IN.gov]
Sent: 4/17/2017 1:53:01 PM
To: Lee, Jae [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6e8957da9f254aab83632814f05d1cd2-JLee10]
CC: KIZER, BRUCE [BKIZER@idem.IN.gov]; rjean@idem.in.gov [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=user54f1917c]; Valentino, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29ccd101653e4a5fae2273a9ae9f7bd0-MValenti]; Setnicar, Mary [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b4cedae7b8aa4f3b968d7a6a40de75ec-MSetnica]; Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
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From: Lee, Jae
Sent: Fri 4/14/2017 1:38:42 PM
Subject: RE: Tradebe Status

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Message

From: Cunningham, Michael [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0CE197B42B574909995FE91BDFE04BA6-MCUNNING]
Sent: 4/14/2017 12:07:00 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: Tradebe Discussion

I am out of the office until Monday, April 17, 2017. I will reply to your email upon my return to the office.

Message

From: Kohler, Amanda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=665A6CDD3371457FB03D5184F58F7A4A-KOHLER, AMANDA]
Sent: 4/14/2017 10:49:31 AM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: Tradebe conf call IDEM request to join

I am out of the office from Wednesday, April 12, through Friday, April 14. In my absence, please contact Tab Sommer at sommer.tab@epa.gov or 703-605-0636.

Delivery Report

From: System Administrator [System Administrator]
Sent: 11/16/2016 7:52:44 PM
To: Kaps, Melissa [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2fd9ca1cc4f145df83c8bdd2b683a290-mkaps]
Subject: Undeliverable: Tradebe
Attachments: Accepted: Tradebe

Your message

To: Kaps, Melissa
Subject: Accepted: Tradebe
Sent: 11/16/2016 7:52:42 PM

Appointment

From: /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0ABF7F5C1A5E462E8096CB58EF9757EB-MGALBRAI [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0ABF7F5C1A5E462E8096CB58EF9757EB-MGALBRAI]
Sent: 11/16/2016 7:52:42 PM
To: Kaps, Melissa [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2fd9ca1cc4f145df83c8bdd2b683a290-mkaps]

Subject: Accepted: Tradebe
Location: My Temporary Office

Start: 11/17/2016 1:00:00 PM
End: 11/17/2016 2:00:00 PM
Show Time As: Busy

Message

From: Kohler, Amanda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=665A6CDD3371457FB03D5184F58F7A4A-KOHLER, AMANDA]
Sent: 5/30/2017 6:55:39 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: tradebe video

I am out of the office on Tuesday, May 30. In my absence, please contact Tab Sommer at sommer.tab@epa.gov or 703-605-0636.

Appointment

From: Gaines, Jeff [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C0CE5613E3C245B09C6CCAD71CF3062A-JGAINE02]
Sent: 5/23/2017 1:27:35 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]

Subject: Canceled: tdu!!!
Location: DCRoomPYS6771/DC-Potomac-Yard-South-ORCR

Start: 5/23/2017 3:30:00 PM
End: 5/23/2017 4:30:00 PM
Show Time As: Free

Importance: High

Message

From: Atagi, Tracy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EBCFD670077440DFB63A691749F20AF2-TATAGI]
Sent: 11/16/2016 1:57:53 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: upcoming meting with Tradebe

I am on travel today and will be back in the office tomorrow, Thursday Nov 17th.

Message

From: Young, Jessica [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=26404C78D3DC441F810AC723CF8F9D49-JBIEGELS]
Sent: 11/16/2016 12:14:11 PM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: Tradebe information request letter 3007

I am out of the office office the afternoon of Tuesday Nov 15 and Wednesday Nov 16. Please contact George Faison at 703-305-7652 if you need immediate assistance.

Message

From: Colon, Lilybeth [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=6AE6D0CC3F984B08B8101569A2CF6308-COLON, LILYBETH]
Sent: 5/18/2017 3:41:42 PM
To: Sasseville, Sonya [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9302bd775fa84bebbbe0c430316f76c6-SSASSEVI]; Guernica, Mimi [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6c8a7d898ed74b678830c17ee521a045-MGUERNIC]; Kohler, Amanda [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=665a6cdd3371457fb03d5184f58f7a4a-Kohler, Amanda]
CC: Buzzell, Tricia [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1d1892b38f81459f97c51d914dddc73b-pbuzze02]; Sommer, Tab [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=891a73d2bb1a4d6a8a7727f05ec50161-TTESNAU]; Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]; Pease, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3853cbe6e34644309fe19981dbdf3716-Pease, Michael]; Krueger, Anna [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c2b3ca3f71784b6a8d35709df4b3bdd6-Krueger, An]; Swetland-Johnson, Karen [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a916f4dac0d84c3499b44ee837ae0205-Swetland, K]; Gaines, Jeff [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c0ce5613e3c245b09c6ccad71cf3062a-JGAINE02]; Gerhard, Sasha [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=409f48684eb4422cb13177fc9702d0fa-Gerhard, Sasha]; Hansen, Gail [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d9de096f6f084bc2be70029e26ac687e-GHANSEN]
Subject: RE: Pre-Brief on the Permit Integrity Team
Attachments: PIT Briefing 5.18.19.pptx

Attached are the slides for today's meeting.

Lilybeth

-----Original Appointment-----
From: Sasseville, Sonya
Sent: Tuesday, May 16, 2017 9:32 AM
To: Sasseville, Sonya; Guernica, Mimi; Kohler, Amanda; Colon, Lilybeth
Cc: Buzzell, Tricia; Sommer, Tab; Galbraith, Michael; Pease, Michael; Krueger, Anna; Swetland-Johnson, Karen; Gaines, Jeff
Subject: Pre-Brief on the Permit Integrity Team
When: Thursday, May 18, 2017 2:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: S-6731

To discuss briefing with Barnes on PIT.

POC: Lilybeth Colon

Appointment

From: DCRoomPYS6811VTC/DC-Potomac-Yard-South-ORCR [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=USERCB6514B1]
Sent: 5/18/2017 11:36:05 AM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]

Subject: Accepted: tdu brainstorm part 2
Location: DCRoomPYS6811VTC/DC-Potomac-Yard-South-ORCR

Start: 5/23/2017 3:30:00 PM
End: 5/23/2017 4:30:00 PM

Recurrence: (none)

Your request was accepted.

Sent by Microsoft Exchange Server 2016

Appointment

From: DCRoomPYS6771/DC-Potomac-Yard-South-ORCR [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=USER5AA65AA5]
Sent: 5/18/2017 11:17:53 AM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]

Subject: Declined: tdu brainstorm part 2
Location: DCRoomPYS6771/DC-Potomac-Yard-South-ORCR

Start: 5/23/2017 3:30:00 PM
End: 5/23/2017 4:30:00 PM

Recurrence: (none)

Your meeting request was declined.

You don't have permission to book this resource.

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Message

From: Atagi, Tracy [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EBCFD670077440DFB63A691749F20AF2-TATAGI]
Sent: 5/18/2017 11:17:52 AM
To: Galbraith, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0abf7f5c1a5e462e8096cb58ef9757eb-MGALBRAI]
Subject: Automatic reply: tdu brainstorm part 2

I am out of the office Thursday, May 18, 2017. If you need immediate assistance, please contact Drew Lausch at 703-603-0721.

9498.1994(08)

CLARIFICATION REGARDING SINGLE EMISSION POINT, MULTI-DEVICE COMBUSTION FACILITIES

United States Environmental Protection Agency
Washington, D.C. 20460
Office of Solid Waste and Emergency Response

July 29, 1994

MEMORANDUM

SUBJECT: Clarification Regarding Single Emission Point, Multi-Device Combustion Facilities

FROM: Michael H. Shapiro, Director
Office of Solid Waste

TO: Allyn M. Davis, Director Hazardous Waste Management Division, Region VI

Walter L. Sutton, Jr., Acting Regional Counsel
Office of Regional Counsel, Region VI

This memorandum is in response to your July 8, 1994, memorandum requesting clarification of a prior headquarters opinion regarding the Giant Cement Company in Harleyville, South Carolina. I understand that the recent court ruling on Marine Shale Processors has raised some questions about EPA's interpretation of the regulatory status of multi-device combustion facilities. In particular, we think that our August 11, 1992 memorandum regarding Giant Cement and Region IV's subsequent letter of November 24, 1993 was misapplied. I thus agree with Region VI that it is important to clarify this issue so that consistent determinations can be made nationwide.

This memorandum will clarify how the RCRA regulations apply to combustion devices (incinerators, industrial furnaces, and boilers) at facilities in which more than one of these devices are connected and in which the emissions from the connected devices emanate from a single emissions point. I believe the confusion arose because there are two basic issues that are encountered when applying the regulations to units in series: 1) what emission controls and

operating conditions are technically appropriate and will be fully protective of human health and the environment; and 2) what legal categories do the units fall into, for the purpose of determining regulatory coverage, eligibility for interim status, need for permit modifications, etc. The Giant memo addressed only the first issue, but appears to have been misinterpreted to apply to the second issue also. Following interpretation of the two issues.

Emission Controls

Giant Cement operated a hazardous waste-fired cement kiln and a number of "resource recovery kilns" burning contaminated soil. Both the off-gas and the treated-solids from the resource recovery kilns were fed into the cement kiln. The resource recovery kilns were interim status incinerators.

The Giant memo referenced above addressed only the question of what types of operational and emissions controls are appropriate to impose on connected devices with a single emissions point, by stating: "For systems of two or more hazardous waste treatment units in series, our general guideline is that a case-by-case determination of how the overall system is classified and what standards and permit conditions are applied should be based on the dominant design, operating, feed, and emissions characteristics of the system, and the most specific standards applicable to that type of system." We still believe this type of flexible approach is important because of the difficulty, from an engineering standpoint, of applying two sets of potentially conflicting emission standards (e.g., the Part 264 Subpart O incinerator standards and the Part 266 Subpart H boiler and industrial furnace (BIF) standards) to a single emissions point on a series of devices which are connected.

In performing a technical evaluation of what standards should be applied to a group of units in series, it will usually be necessary to look at the reasoning behind the regulatory requirements, as expressed in preambles and guidance documents, and not simply at the regulatory requirements. Based on this type of evaluation, if two sets of emissions standards fit equally well from a technical standpoint, preference should be given to the more stringent standards. If not, the standards which are most-appropriate technically, considering their regulatory rationale, should be applied. In addition, the permit writer should consider whether additional conditions beyond the regulations are

necessary to tailor the permit to the specific system and site in order to protect human health and the environment (through use of the RCRA 3005(c)(3) omnibus authority).

It should also be noted that there may be cases, such as where two or more combustion devices operate in parallel and share only a common stack, in which the determination of what standards to apply is straightforward (i.e., unit by unit). The principal remaining issue in this situation is how to do the testing to determine whether each unit is meeting the standards.

Permitting/Interim status Determination

The above determination of the most technically appropriate and protective emissions controls to apply in the permit for interconnected devices must be distinguished from the classification of the devices for purposes of determining interim status eligibility and other issues. Because Giant had already attained interim status separately for its "resource recovery kilns" as incinerators and for its cement kiln as an industrial furnace, the August 1992 memorandum did not address nor need to address the classification of these devices for such purposes.

For the same reason, Region IV's November 24, 1993 letter to Giant Cement indicating that the resource recovery kilns would now be subject to hazardous waste incinerator emission standards because the combusted contaminated soil from those units was being disposed and not put into the cement kiln, dealt only with the issue of what emission standards would apply to these kilns. These earlier documents addressed the only question asked, which is what emission standards should apply.

In recognition of the practical difficulties of applying more than one set of standards to a single emission point, these documents discussed the criteria to be used in determining what emission standards should apply to that point. Under the principles discussed in these documents, EPA may determine, for example, that the emissions from a process train involving an incinerator and a cement kiln are most appropriately regulated under the emissions standards applicable to cement kilns. This does not mean that the incinerator "becomes" a cement kiln; it simply means that the common emission point should be regulated under the cement kiln standards.

These documents did not intend to suggest that the individual units in a process train lose their unit identities. The separate identities of the individual units in a process train is relevant in the context of facilities seeking to obtain interim status, among other situations. Under EPA regulations, a facility that is "in existence" on the effective date of a statutory or regulatory change that subjects it to the requirement to obtain a RCRA permit may obtain interim status by submitting Part A of its permit application and complying with statutory notification requirements. 40 CFR 270.70(a). A unit that is already subject to the permit requirement cannot obtain interim status upon the promulgation of regulations bringing a different type of unit into the RCRA system. See 56 FR at 7142 (February 21, 1991) (aggregate kiln burning hazardous waste for destruction and thereby subject to the rules for incinerators is not newly eligible for interim status when BIF rules are promulgated).

In reviewing a Part A application form filed by a facility seeking interim status following the regulation of a new type of unit, EPA evaluates whether the unit (or units) identified on the form were of the newly regulated type. In performing this evaluation, EPA-would compare the unit with the unit-definitions set forth in its regulations, irrespective of whether the unit was self-contained or part of a process train. In particular, if the unit and other units shared a common emission point, the regulatory emission standards determined to be most technically appropriate for that point would be irrelevant to the identity of the unit in question.

The pertinent definitions for combustion devices are the definitions of "boiler", "industrial furnace", and "incinerator" in 260.10. The definition of boiler is based on unit design. Industrial furnaces are an enumerated list of devices that are parts of manufacturing processes and incinerators are devices which are not boilers or industrial furnaces. The list of industrial furnaces is not written in terms of device systems; it describes particular devices: "cement kilns", "aggregate kilns", "halogen acid furnaces", etc. Consequently, a device would normally need to fit one of these descriptions to be an industrial furnace.

The Agency's interpretation is that the list of industrial furnaces applies on a device-by-device basis whenever the devices are combusting separate (i.e., not from another device in the series) hazardous wastes. The only exception would be where the

Agency has indicated unequivocally (normally in the context of a notice-and-comment rulemaking) that the definition of that industrial furnace type applies to multiple devices. The only device for which the Agency has done so are cement kiln precalciners, which EPA agrees are invariably operated as part of one cement-manufacturing operation, even if the precalciner is separately fired with hazardous waste (see footnote 1). See, e.g., 54 FR at 43761 (Oct. 26, 1989). The Agency did not consider the effect of emissions from other connected hazardous waste units when it promulgated the BIF rule.

The interpretation that the industrial furnace definition is to be read to apply to each combustion device burning separate hazardous waste is consistent with the literal language of the industrial furnace definition. It is also consistent with statutory provisions requiring that hazardous waste combustion can only be performed pursuant to stringent regulatory control, RCRA sections 3004(o)(1)(B) and 3004(q), and that hazardous waste be properly managed in the first instance. RCRA section 1003(a)(5). These goals would be circumvented if hazardous waste-fired units were simply considered to be part of the industrial furnace. Before the BIF rules became effective, for example, this would mean that the additional unit -- an incinerator -- could burn hazardous waste without any regulatory control.

This interpretation covers the case of two hazardous waste fired devices. If the additional device is not hazardous waste fired, then it could be considered to be part of the industrial furnace. The Agency has in fact indicated in explanatory preambles and other interpretive documents that industrial furnaces can include certain integrated components that pretreat materials or assist in air pollution control. See, e.g., 56 FR at 42598 (August 27, 1991). So long as these devices are not burning separate hazardous wastes, they do not raise the core RCRA concerns discussed above, and can accordingly be regulated as part of the industrial furnace (see footnote 2).

Example

To illustrate the application of the above principles to combustion units in series, consider the following example. The owner/operator of an interim status cement kiln chooses to add an afterburner to help achieve control of PIC emissions (see 57 FR at

38561 (Aug. 27, 1991) where EPA suggested this course as a means of reducing organic emissions) and further chooses to fire the afterburner with hazardous waste. The hazardous-waste fired afterburner is not a cement kiln, but rather is a separate device: an incinerator (see footnote 3). It is not on the list of industrial furnaces, and it is engaged in the type of activity -- hazardous waste combustion -- for which regulatory controls are mandated. Thus, the afterburner is ineligible for interim status as part of the cement kiln. The facility would have to apply for a change during interim status under 270.72(a)(3) for addition of a process and receive Director approval based on meeting the criteria in that section.

However, in the same example, if the cement kiln were to add an afterburner which is not hazardous waste-fired, the Agency would not view this action as adding an incinerator. By not separately combusting hazardous waste, the hypothetical afterburner is not separately engaged in hazardous waste treatment. Rather, it is simply treating emissions from a hazardous waste treatment device, and so is considered part of that device. In such a case no regulatory approval under the change during interim status provisions is needed to add the device, and the afterburner becomes part of the interim status cement kiln.

I hope this has clarified the issue of how to address interconnected combustion devices. If you have further questions, feel free to call me, or have your staff contact Sonya Sasseville at (703) 308-8648.

cc: Matt Straus, Fred Chanania, Dev Barnes, Matt Hale, Frank McAlister, Larry Starfield, Steve Silverman, Terry Sykes, Laurie King, Waste Combustion Permit Writers' Workgroup, Subpart X Permit Writers' Workgroup

1 While the Agency may have identified other devices which do not separately fire hazardous waste as part of an industrial furnace, precalciners are the only hazardous waste-fired devices for which such an interpretation has been made.

2 This is not intended to imply that the presence of an afterburner not separately fired with hazardous waste on a non-controlled flame device never affects the regulatory classification of that device. In the case of plasma arc and infrared units, the Agency has classified

those devices as incinerators when they have afterburners (considering the plasma arc or infrared device plus the afterburner to be one unit) and as Subpart X devices when they do not. (See 56 FR 7204, 57 FR 38562, and incinerator definition at 40 CFR 260.10.) It is expected that there will be other situations in the future where the Agency will be developing separate definitions for units in series. This will be done through rulemaking, as appropriate.

3 EPA officials have in fact given this advice to cement kilns contemplating adding afterburners to assist in meeting emission controls for products of incomplete combustion.

To: Galbraith, Michael[Galbraith.Michael@epa.gov]; Greenberg, Judith[greenberg.judith@epa.gov]; Gromnicki, Jean[gromnicki.jean@epa.gov]; Valentino, Michael[Valentino.Michael@epa.gov]; Setnicar, Mary[Setnicar.Mary@epa.gov]; Blough, James[Blough.James@epa.gov]; Chow, Kevin[chow.kevin@epa.gov]; Cunningham, Michael[cunningham.michael@epa.gov]
From: Lee, Jae
Sent: Fri 4/28/2017 2:13:28 PM
Subject: FW: Tradebe Treatment & Recycling Permit Renewal Issuance
EPA.pdf

Indiana Department of Environmental management (IDEM) issued a final RCRA permit to Tradebe Treatment and Recycling LLC, East Chicago, IN, IND 000 646 943, on April 28, 2017. No comments were received during the public comment period.

It is a State-only 5-year RCRA permit.

Please let me know if you need a copy of the permit.

Jae

From: OAKES, GLYNDA [mailto:GOAKES@idem.IN.gov]
Sent: Friday, April 28, 2017 7:04 AM
To: Lee, Jae <lee.jae@epa.gov>
Subject: Tradebe Treatment & Recycling Permit Renewal Issuance

Attached is your notice regarding the issuance of the permit renewal for Tradebe.

Please acknowledge receipt of this e-mail.

Glynda Oakes
IDEM-OLQ-HW Permits
Room 1101
100 N. Senate Avenue
Indianapolis, IN 46204
317/233-1052 - phone
317/232-3403 - fax
goakes@idem.IN.gov

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Eric J. Holcomb
Governor
Bruno L. Pigott
Commissioner

April 28, 2017

Mr. Jae Lee
U.S. EPA, Region 5
Land and Chemical Division (LR-8J)
77 West Jackson Blvd.
Chicago, Illinois 60604-3590

Dear Mr. Lee:

Re: Hazardous Waste Management
Permit Renewal
Tradebe Treatment and Recycling, LLC
East Chicago, Indiana
IND000646943

A Hazardous Waste Management Permit Renewal has been issued to the above referenced facility. The effective date of the permit is 15 days after receipt by the facility.

The duration of the permit is five years from the issuance date. The Indiana Department of Environmental Management (IDEM) may modify, revoke and reissue, or terminate this permit based on causes specified in 329 IAC 3.1-13-7.

No comments were received during the public comment period which ended April 17, 2017.

Copies of the Notice of Decision, and Final Permit are available for viewing in the IDEM Virtual File Cabinet at: www.vfc.idem.IN.gov. Virtual File Cabinet document numbers are:

Notice of Decision 80450484 Environmental Justice Memo 80410040

Permit Conditions 80450474 Permit Attachments:

A 80450475 B 80450476 C 80450477 D 80450478 F 80450479
G 80450480 H 80450481 I 80450482 J 80450483

If you have any questions, please contact Ms. Ruth Jean at (317) 232-3398 or rjean@idem.IN.gov.

Sincerely,

Craig Schroer, Chief
Hazardous Waste Permit Section
Permits Branch
Office of Land Quality

RAJ/gjo

Air Pollution Control Technology Fact Sheet

Name of Technology: Thermal Incinerator

This type of incinerator is also referred to as a direct flame incinerator, thermal oxidizer, or afterburner. However, the term afterburner is generally appropriate only to describe a thermal oxidizer used to control gases coming from a process where combustion is incomplete.

Type of Technology: Destruction by thermal oxidation

Applicable Pollutants: Primarily volatile organic compounds (VOC). Some particulate matter (PM), commonly composed as soot (particles formed as a result of incomplete combustion of hydrocarbons (HC), coke, or carbon residue) will also be destroyed in various degrees.

Achievable Emission Limits/Reductions:

VOC destruction efficiency depends upon design criteria (i.e., chamber temperature, residence time, inlet VOC concentration, compound type, and degree of mixing) (EPA, 1992). Typical thermal incinerator design efficiencies range from 98 to 99.99% and above, depending on system requirements and characteristics of the contaminated stream (EPA, 1992; EPA, 1996a). The typical design conditions needed to meet 98% or greater control or a 20 parts per million by volume (ppmv) compound exit concentration are: 870°C (1600°F) combustion temperature, 0.75 second residence time, and proper mixing. For halogenated VOC streams, 1100°C (2000°F) combustion temperature, 1.0 second residence time, and use of an acid gas scrubber on the outlet is recommended (EPA, 1992).

For vent streams with VOC concentration below approximately 2000 ppmv, reaction rates decrease, maximum VOC destruction efficiency decreases, and an incinerator outlet VOC concentration of 20 ppmv, or lower may be achieved (EPA, 1992).

Controlled emissions and/or efficiency test data for PM in incinerators are not generally available in the literature. Emission factors for PM in phthalic anhydride processes with incinerators are available, however. The PM control efficiencies for these processes were found to vary from 79 to 96% (EPA, 1998). In EPA's 1990 National Inventory, incinerators used as control devices for PM were reported as achieving 25 to 99% control efficiency of particulate matter 10 microns or less in aerodynamic diameter (PM_{10}) at point source facilities (EPA, 1998). Table 1 presents a breakdown of the PM_{10} control efficiency ranges by industry for recuperative incinerators (EPA, 1996b). The VOC control efficiency reported for these devices ranged from 0 to 99.9%. These ranges of control efficiencies are large because they include facilities that do not have VOC emissions and control only PM, as well as facilities which have low PM emissions and are primarily concerned with controlling VOC (EPA, 1998).

Table 1. Thermal Incinerator PM_{10} Destruction Efficiencies by Industry (EPA, 1996b)

Industry/Types of Sources	PM_{10} Control Efficiency (%)
Petroleum and Coal Products asphalt roofing processes (blowing, felt saturation); mineral calcining; petroleum refinery processes (asphalt blowing, catalytic cracking, coke calcining, sludge converter); sulfur manufacturing	25 - 99.9
Chemical and Allied Products carbon black manufacturing (mfg); charcoal mfg; liquid waste disposal; miscellaneous chemical mfg processes; pesticide mfg; phthalic anhydride mfg (xylene oxidation); plastics/synthetic organic fiber mfg; solid waste incineration (industrial)	50 - 99.9
Primary Metals Industries by-product coke processes (coal unloading, oven charging and pushing, quenching); gray iron cupola and other miscellaneous processes; secondary aluminum processes (burning/drying, smelting furnace); secondary copper processes (scrap drying, scrap cupola, and miscellaneous processes); steel foundry miscellaneous processes; surface coating oven	70 - 99.9
Electronic and Other Electric Equipment chemical mfg miscellaneous processes; electrical equipment bake furnace; fixed roof tank; mineral production miscellaneous processes; secondary aluminum roll/draw extruding; solid waste incineration (industrial)	70 - 99.9
Electric, Gas, and Sanitary Services internal combustion engines; solid waste incineration (industrial, commercial/ institutional)	90 - 98
Stone, Clay, and Glass Products barium processing kiln; coal cleaning thermal dryer; fabricated plastics machinery; wool fiberglass mfg	50 - 95
Food and Kindred Products charcoal processing, miscellaneous; corn processing, miscellaneous, fugitive processing, miscellaneous; soybean processing, miscellaneous	70 - 98
Mining asphalt concrete rotary dryer; organic chemical air oxidation units, sulfur production	70 - 99.6
National Security and International Affairs solid waste incineration (commercial/institutional and municipal)	70
Textile Mill Products plastics/synthetic organic fiber (miscellaneous processes)	88 - 95
Industrial Machinery and Equipment secondary aluminum processes (burning/drying, smelt furnace)	88 -98
Lumber and Wood Products solid waste incineration (industrial)	70
Transportation Equipment solid waste incineration (industrial)	70 - 95

Applicable Source Type: Point

Typical Industrial Applications:

Thermal incinerators can be used to reduce emissions from almost all VOC sources, including reactor vents, distillation vents, solvent operations, and operations performed in ovens, dryers, and kilns. They can handle minor fluctuations in flow, however, excess fluctuations require the use of a flare (EPA, 1992). Their fuel consumption is high, so thermal units are best suited for smaller process applications with moderate-to-high VOC loadings.

Incinerators are used to control VOC from a wide variety of industrial processes, including, but not limited to the following (EPA, 1992):

- Storing and loading/unloading of petroleum products and other volatile organic liquids;
- Vessel cleaning (rail tank cars and tank trucks, barges);
- Process vents in the synthetic organic chemical manufacturing industry (SOCMI);
- Paint manufacturing;
- Rubber products and polymer manufacturing;
- Plywood manufacturing;
- Surface coating operations:
  Appliances, magnetic wire, automobiles, cans, metal coils, paper, film and foil, pressure sensitive tapes and labels, magnetic tape, fabric coating and printing, metal furniture, wood furniture, flatwood paneling, aircraft, miscellaneous metal products;
- Flexible vinyl and urethane coating;
- Graphic arts industry; and
- Hazardous waste treatment storage, and disposal facilities (TSDFs).

Emission Stream Characteristics:

a. **Air Flow:** Typical gas flow rates for thermal incinerators are 0.24 to 24 standard cubic meters per second (sm^3/sec) (500 to 50,000 standard cubic feet per minute (scfm)) (EPA, 1996a).

b. **Temperature:** Most incinerators operate at higher temperatures than the ignition temperature, which is a minimum temperature. Thermal destruction of most organic compounds occurs between 590°C and 650°C (1100°F and 1200°F). Most hazardous waste incinerators are operated at 980°C to 1200°C (1800°F to 2200°F) to ensure nearly complete destruction of the organics in the waste (AWMA, 1992).

a. **Pollutant Loading:** Thermal incinerators can be used over a fairly wide range of organic vapor concentrations. For safety considerations, the concentration of the organics in the waste gas must be substantially below the lower flammable level (lower explosive limit, or LEL) of the specific compound being controlled. As a rule, a safety factor of four (i.e., 25% of the LEL) is used (EPA, 1991, AWMA, 1992). The waste gas may be diluted with ambient air, if necessary, to lower the concentration. Considering economic factors, thermal incinerators perform best at inlet concentrations of around 1500 to 3000 ppmv, because the heat of combustion of hydrocarbon gases is sufficient to sustain the high temperatures required without addition of expensive auxiliary fuel (EPA, 1995).

d. **Other Considerations:** Incinerators are not generally recommended for controlling gases containing halogen- or sulfur-containing compounds, because of the formation of hydrogen chloride, hydrogen fluoride gas, sulfur dioxide, and other highly corrosive acid gases. It may be necessary to install a post-oxidation acid gas treatment system in such cases, depending on the outlet concentration. This would likely make incineration an uneconomical option. (EPA, 1996a). Thermal

incinerators are also not generally cost-effective for low-concentration, high-flow organic vapor streams (EPA, 1995).

Emission Stream Pretreatment Requirements:

Typically, no pretreatment is required, however, in some cases, a concentrator (e.g., carbon or zeolite adsorption) may be used to reduce the total gas volume to be treated by the more expensive incinerator.

Cost Information:

The following are cost ranges (expressed in 2002 dollars) for packaged thermal incinerators of conventional design under typical operating conditions, developed using EPA cost-estimating spreadsheets (EPA, 1996a) and referenced to the volumetric flow rate of the waste stream treated. The costs do not include costs for a post-oxidation acid gas treatment system. Costs can be substantially higher than in the ranges shown when used for low to moderate VOC concentration streams (less than around 1000 to 1500 ppmv). As a rule, smaller units controlling a low concentration waste stream will be much more expensive (per unit volumetric flow rate) than a large unit cleaning a high pollutant load flow. Operating and Maintenance (O & M) Costs, Annualized Cost, and Cost Effectiveness are dominated by the cost of supplemental fuel required.

a. **Capital Cost:** \$53,000 to \$190,000 per sm^3/sec (\$25 to \$90 per scfm)

b. **O & M Cost:** \$11,000 to \$160,000 per sm^3/sec (\$5 to \$75 per scfm), annually

c. **Annualized Cost:** \$17,000 to \$208,000 per sm^3/sec (\$8 to \$98 per scfm), annually

d. **Cost Effectiveness:** \$440 to \$3,600 per metric ton (\$400 to \$3,300 per short ton), annualized cost per ton per year of pollutant controlled

Theory of Operation:

Incineration, or thermal oxidation is the process of oxidizing combustible materials by raising the temperature of the material above its auto-ignition point in the presence of oxygen, and maintaining it at high temperature for sufficient time to complete combustion to carbon dioxide and water. Time, temperature, turbulence (for mixing), and the availability of oxygen all affect the rate and efficiency of the combustion process. These factors provide the basic design parameters for VOC oxidation systems (ICAC, 1999).

A straight thermal incinerator is comprised of a combustion chamber and does not include any heat recovery of exhaust air by a heat exchanger (this type of incinerator is referred to as a recuperative incinerator).

The heart of the thermal incinerator is a nozzle-stabilized flame maintained by a combination of auxiliary fuel, waste gas compounds, and supplemental air added when necessary. Upon passing through the flame, the waste gas is heated from its preheated inlet temperature to its ignition temperature. The ignition temperature varies for different compounds and is usually determined empirically. It is the temperature at which the combustion reaction rate exceeds the rate of heat losses, thereby raising the temperature of the gases to some higher value. Thus, any organic/air mixture will ignite if its temperature is raised to a sufficiently high level (EPA, 1996a).

The required level of VOC control of the waste gas that must be achieved within the time that it spends in the thermal combustion chamber dictates the reactor temperature. The shorter the residence time, the higher the reactor temperature must be. The nominal residence time of the reacting waste gas in the combustion chamber is defined as the combustion chamber volume divided by the volumetric flow rate of the gas. Most thermal units are designed to provide no more than 1 second of residence time to the waste gas with typical temperatures of 650 to 1100°C (1200 to 2000°F). Once the unit is designed and built, the residence time is

not easily changed, so that the required reaction temperature becomes a function of the particular gaseous species and the desired level of control (EPA, 1996a).

Studies based on actual field test data, show that commercial incinerators should generally be run at 870°C (1600°F) with a nominal residence time of 0.75 seconds to ensure 98% destruction of non-halogenated organics (EPA, 1992).

Advantages:

Incinerators are one of the most positive and proven methods for destroying VOC, with efficiencies up to 99.9999% possible. Thermal incinerators are often the best choice when high efficiencies are needed and the waste gas is above 20% of the LEL.

Disadvantages:

Thermal incinerator operating costs are relatively high due to supplemental fuel costs.

Thermal incinerators are not well suited to streams with highly variable flow because of the reduced residence time and poor mixing during increased flow conditions which decreases the completeness of combustion. This causes the combustion chamber temperature to fall, thus decreasing the destruction efficiency (EPA, 1991).

Incinerators, in general, are not recommended for controlling gases containing halogen- or sulfur-containing compounds because of the formation of highly corrosive acid gases. It may be necessary to install a post-oxidation acid gas treatment system in such cases, depending on the outlet concentration (EPA, 1996a). Thermal incinerators are also not generally cost-effective for low-concentration, high-flow organic vapor streams (EPA, 1995).

Other Considerations:

Thermal incinerators are not usually as economical, on an annualized basis, as recuperative or regenerative incinerators because they do not recover waste heat energy from the exhaust gases. This heat can be used to preheat incoming air, thus reducing the amount of supplemental fuel required. If there is additional heat energy available, it can be used for other process heating needs.

References:

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EPA, 1991. U.S. EPA, Office of Research and Development, "Control Technologies for Hazardous Air Pollutants," EPA/625/6-91/014, Washington, D.C., June.

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EPA, 1996a. U.S. EPA, Office of Air Quality Planning and Standards, "OAQPS Control Cost Manual," Fifth Edition, EPA 453/B-96-001, Research Triangle Park, NC. February.

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EPA, 1998. U.S. EPA, Office of Air Quality Planning and Standards, "Stationary Source Control Techniques Document for Fine Particulate Matter," EPA-452/R-97-001, Research Triangle Park, NC., October.

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State of Oregon
Department of
Environmental
Quality

Organic Recovery Unit #2
Design and Operations Plan

For

Chemical Waste Management of the Northwest, Inc.

Arlington Facility • ORD 089 452 353
17629 Cedar Springs Lane
Arlington, Oregon

Standalone Document No. 22

This document is issued by the
Oregon Department of Environmental Quality

DEQ Issued Rev. 9 September, 2016

TABLE OF CONTENTS

LIST OF APPENDICES

SECTION 1 - **ORGANIC RECOVERY UNIT #2**

1.1 Introduction

This *Organic Recovery Unit #2 Design and Operations Plan* (Plan) establishes the design and operating standards for the Bioremediation and the Organic Recovery Unit (ORU) treatment processes.

1.2 Purpose

- To ensure compliance with all aspects of Organic waste treatment under 40 CFR §264 subparts AA,BB, and CC air emissions standards and;,
- To ensure treatment standards are achieved for all treated wastes per 40 CFR §268.40.

1 Organic Recovery Unit ORU-2

CWMNW operates two Organic Recovery Units (ORU), designated ORU-1 and ORU-2. Both ORU treatment systems are located adjacent to Containment Building B-5. ORU-1 received approval to operate in 2010 and has been operating since that time. ORU-1 is covered under *Standalone #19 – Bioremediation and Organic Recovery Unit Design and Operations Plan.*

ORU-2 was constructed and commissioned in 2016, The ORU-2 treatment unit treats listed and/or characteristic hazardous wastes using an indirect fired thermal process to reduce listed and/or characteristic hazardous wastes to the levels specified in 40 CFR Part 268. Secondary treatment methods may be required to reduce the treated listed and/or characteristic hazardous wastes to the levels specified in 40 CFR Part 268 prior to land disposal. Wastes accepted for treatment through the ORU-2 treatment system are staged inside Building B-5 and in approved containers in outside storage areas. Post-treatment solids awaiting LDR clearance or further treatment are temporarily stored in piles inside Building B-4 or B-5.

1.3 ORU-2 Treatment System

ORU-2 material handling conveyers receive material from two feed hoppers and convey the media to be treated to the ORU treatment unit. System feed conveyors are fully enclosed and ventilated to the thermal oxidizer. The ORU-2 system consists of a double pass rotary furnace that indirectly heats the media traveling through the inside of the rotary tube, and the treated media discharges at the feed end of the unit. System components subject to freezing are heat traced and insulated to prevent freezing. As-built design plans for the ORU-2 are contained in Appendix A.

1.4 Wastes Approved for Treatment

ORU-2 physically treat media with organic contamination. The following table illustrates the general waste families and possible associated RCRA Codes being treated by the system.

Table 19-1: ORU Approved Waste Codes

APPROVED EPA CODES
D001, D002, DOO3, D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, DO36, D037, D038, D039, D040, F001, F002, F003, F005, F034, F037, F038, K001, K048, K049, K050, K051, K052, K143, K169, K170, K171, K172, P037, P059, P089, U002, U019, U031, U036, U051, U052, U060, U061, U112, U129, U140, U154, U159, U161, U165, U188, U210, U220, U228, U239

The ORU Treatment systems are made up of several subsystems that include the feed systems, an indirect fired Anaerobic Thermal Desorption Unit (ATDU), ash handling systems, vapor condensing system, process water handling and treatment systems, and air emissions control systems. A process flow diagram for the various systems is contained in Appendix B.

1.5 Waste Segregation

The treatment of the wastes with codes in Table 19-1 through the ORU system may require the isolation of process residuals dependent on the EPA codes associated with the waste being treated. These incompatible wastes will be treated separately following a system change over. The system changeover process shall include the following tasks, all wastes in the feed system will be processed through the ATDU, all process water will be evacuated from the system and treated through the process water treatment system, and all sludges accumulated in the sludge removal system will be removed and stored in accordance with the WAP. Evacuated residual sludges and process waters will be treated and/or managed in accordance with the WAP.

SECTION 2 - **ORU-2 SYSTEM OVERVIEW**

2.1 Anaerobic Thermal Desorption Unit

The system is designed to separate the organic constituents from contaminated media in such a manner that they are preserved for collection and recycling. The Anaerobic Thermal Desorption Unit (ATDU) includes a rotating cylinder that is slightly inclined downward from the product feed end. This rotating cylinder is enclosed within an outer shell, within which heat is applied to the outside of the rotating cylinder. Either Landfill Gas or Propane will be used to fire the ATDU. Wastes inside the ATDU do not directly contact the heat source, and an inert atmosphere is maintained in the cylinder to prevent oxidation of the organic constituents. The indirectly heated cylinder vaporizes water and organics contained in the waste. The primary heat transfer mechanism is conduction through the cylinder wall.

2.2 ATDU Operating Conditions

The ATDU rotating cylinder operates under an inert anaerobic atmosphere, thereby preventing any oxidation or destruction of the hydrocarbon or chemical constituents. The inert anaerobic atmosphere is maintained during start-up and shutdown by purging the ATDU with steam to displace the oxygen. During normal operations, the water content of the feedstock is typically sufficient to generate enough water vapor to maintain the inert atmosphere inside the desorber and additional steam is therefore not required. The seals at the inlet and discharge ends of the rotary drum combined with the double tipping valve airlocks at either end maintain a non-oxidizing atmosphere in which the waste can be safely vaporized.

An oxygen sensor connected to the SCADA control system is installed in the discharge end of the ATDU continuously monitors the oxygen concentration within the rotary drum which during normal operations is typically below 1 percent. The SCADA control system the oxygen sensor measures the oxygen concentration inside the drum, in the event the oxygen level increases above 1 percent, steam can be added to reduce the oxygen concentration down to normal levels. In the event the oxygen level rises above 5 percent this would constitute a malfunction condition, the SCADA system will automatically shut down the burners and stop feed into the ATDU.

2.3 ATDU Shutdown Strategy

The system is shutdown employing three scenarios; these are Normal. Malfunction, and Emergency scenarios. The following is a discussion for each scenario;

2.3.1 Emergency Shutdown

Emergency shutdowns are required for

- Feed to the ATDU system is shutdown, feed conveyor system are shutdown
- Burners shutdown
- ATDU shutdown.
- Thermal Oxidizer bypass valve set to open
- Thermal Oxidizer is shutdown

2.3.2 Normal Plant Shutdown

The normal shutdown procedure involves shutting down equipment from the feed end of the unit down through the discharge equipment, allowing adequate time for each conveyor or piece of equipment to fully discharge before proceeding to the next item. The rotary drum will be allowed to cool before drum rotation is stopped. During this cooldown period steam is added to ensure the anaerobic atmosphere inside the ATDU is maintained. After the unit has cooled the vapor recovery and ancillary support systems are shut down. Finally, the thermal oxidizer system is shutdown

2.3.3 Shutdown due to Malfunction

The ATDU system is programmed with both software and hardwired process interlocks to ensure components shut down automatically upon the failure or malfunction of any critical piece of process equipment. Failure of the system to maintain proper combustion in the furnace, process conditions in the ATDU or thermal oxidizer, or a failure of the material handling equipment downstream of the ATDU will cause the system to automatically switch off the combustion system, stop the feed of material into the unit. Should the malfunction involve the thermal oxidize, the system, will divert process vapors away from the thermal oxidizer until the upset condition can be remedied.

2.3.4 Emergency Plant Shutdown

Hardwired interlocks will initiate an emergency shutdown upon loss of primary electrical power, high oxygen concentration inside the ATDU or a runaway stack temperature in the ATDU furnace or Thermal Oxidizer Unit. Redundant gas safety valves installed on each burner spring fail closed if there is any loss in the numerous permissive conditions or interlocks that allow their opening. Feed to the plant is stopped automatically. In certain cases, the thermal oxidizer will remain running but should the emergency condition involve the thermal oxidizer, the system will divert process vapors away from the thermal oxidizer until the upset condition can be remedied. An uninterruptible power supply (UPS) supports the control system to allow the operator to monitor the system shutdown in the event of complete power loss.

2.4 Feed Systems

A below grade mixing hopper south of contaminant Building B5 receives untreated medias, moisture conditions them if necessary and feeds the waste through a series of conveyors to the ATDU for thermal separation. If desired this mixing hopper feed system can also pile the moisture conditioned media inside Building B-5 allowing for storage of the media inside the building. A second feed hopper inside the building is loaded by mechanical methods, the hopper feeds a debris screen which removes materials meeting the definition of debris contained in 40 CFR 268.45 from the waste. Oversize media separated by the screening system is classified as debris and is stored on the floor in containment Building B-5 for delivery to other treatment methods in accordance with Standalone #11 - *Debris Treatment Plan*. The undersize media is then fed through a series of conveyors to the ATDU for thermal separation. An arrangement of airlocks ensure that oxygen is not able to enter the unit during the process operation. The ORU Feed Systems are designed to maintain compliance with 40 CFR 61, Subpart FF (Benzene Waste Operations NESHAP, or BWON) control and treatment standards to manage BWON subject materials when required.

2.5 Treated Ash Systems

The ORU vaporizes organic contaminants contained in media and produces a treated ash that is cooled through jacketed cooling conveyors. A series of transfer conveyors route the processed solids to several separate discharge points in Building B-4, each discharge point will be used to create piles inside the containment building approximately 250 tons in size. Ash may also be stored in containment Building B-5 or in approved containers prior to disposal or further treatment. The ash from the treatment process can be landfilled once the waste meets LDR limits in 40 CFR 268.7. Ash that does not meet the constituent specific LDRs is further treated and cleared before disposal. Confirmation testing is completed in accordance with Standalone #1- *Waste Analysis Plan.*

2.6 Vapor Recovery System

The organic vapors and water are gasified inside the rotating cylinder, and conveyed to a condensing system. The condensing system uses process water to quench the organic vapors. Once quenched the resulting quench water is separated into an organic fraction and a water fraction. The organic fraction separated from the treated wastes can be generally classified in two categories;

2.6.1 Petroleum Fractions

The condensed and separated organic fraction for wastes with recoverable petroleum fraction is not regulated according to 40 CFR 261.6(a)(3)(iv)(C), and is transferred to one of three product storage tanks in the tank farm area. Organic fraction product for these wastes is recycled as a commodity depending on makeup.

2.6.2 Non-Petroleum Fractions

The condensed organic fraction for wastes without recoverable petroleum fractions is subject to the disposal requirements contained in 40 CFR 268 and are managed in accordance with *Standalone #1 – Waste Analysis Plan*. The condensed organic fraction is transferred as process water to the water treatment system in the tank farm area.

2.7 Settled Solids

Settled solids which accumulate in the vapor recovery sump are conveyed out of the sump into a closed hopper. These accumulated solids may be reintroduced back into the ORU feed system for treatment using pumps or mechanical means. In some cases, a centrifuge may be used to dewater these solids for shipment offsite for additional treatment. Liquids separated in the centrifuging process are introduced back into the process water for reuse and/or final treatment.

2.8 Process Water System

Reclaimed commodities are separated from the process water fraction in the oil water separator. Process water is recycled back into the system, and any residual water condensed out of the incoming waste is stored in the process water tank. Residual process water is transferred to surge tanks in the tank farm area. Process water is treated through an onsite water treatment system in the tank farm area with sand and carbon filtration. Chemical treatment prior to filtration may be required for some waste streams. Treated process water meeting LDR requirements may be

reused for moisture conditioning of wastes in the solidification and stabilization process, or sent to the facilities solar evaporation ponds.

2.9 Air Emission Controls

Any residual non-condensable organic vapors are passed through a thermal oxidizer for complete destruction. The thermal oxidizer operation and performance is regulated by the facilities ACDP permit.